The Boston Medical and Surgical Journal

TABLE OF CONTENTS

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ORIGINAL ARTICLES.

Nutrition and Growth in Relation to Tuberculosis. *By William R. P. Emerson, M.D.*, Boston.................... 495
Special Training in Home Nursing. *By Alfred Worcester, M.D.*, Waltham, Mass.................................... 498
An Investigation of the Reliability of Laboratory Tests and a Discussion of Technique of Laboratories in and near Boston. Part 3. *By Francis H. Slack, M.D.*, Brookline, Mass....................................... 500

MEDICAL PROGRESS.

Report on Obstetrics. *By Robert L. De Normandie, M.D.*, Boston 506

BOOK REVIEWS.

The Practice of Medicine. By A. A. Stevens, A.M., M.D..... 512
Submucous Resection of the Nasal Septum. By William M. Dunning, M.D.. 512
Diseases of the Eye. By Charles H. May.................... 512
Diseases of the Eye. By George E. de Schweinitz.......... 512
Current Literature Department.......................... 512

EDITORIALS.

The Annual Meeting of the New England Surgical Society 517
Group Insurance.. 518
News Items... 518

MISCELLANY.

Legislative Matters...................................... 519
Report of the Worcester City Hospital................... 519
The Tuberculosis Institute.............................. 520
As Others See Us... 521
Physicians in the United Kingdom....................... 521

OBITUARY.

Horatio Robinson Storer, M.D........................... 522

CORRESPONDENCE.

Paul H. De Kruif. *Arthur J. Cramp*..................... 523
Society Meetings... 524

Original Articles.

NUTRITION AND GROWTH IN RELATION TO TUBERCULOSIS.*

BY WILLIAM R. P. EMERSON, M.D., BOSTON.

THE statement that almost every child is infected by tuberculosis before he reaches the age of 18 ought to be accompanied by a further statement as to the effect of lowered nutrition in making active a dormant process. It is fair to say that the prevention of malnutrition means to a great extent the prevention of tuberculosis.

This preventive work must center in the home. We may bring public sanitary conditions to a high level, and overcome many other handicaps of serious import, but unless parents are made to understand the nutritional condition of their children, and how to keep them up to a normal standard of health, other efforts to save them from tuberculosis are largely vain. The task of bringing into the home this kind of health education is one of the things which our nutrition program undertakes to accomplish.

Through the nutrition class a well-tested program, based on careful clinical studies, is applied to the problem. The mere weighing and measuring of the children in a particuiar school will so focus attention upon the need of better conditions of growth as to bring about a marked improvement while the new impulse lasts. This has led to the organization of many types of classes which make good beginnings, but lead to overconfidence on the part of uncritical sympathizers who feel sure that the way out has been discovered. It is not enough, however, to establish any kind of a class, and merely make a good start. The program should be planned so that the underweight children will continue their efforts until they have gained weight in proportion to their height, and have been trained in food and health habits which will prevent a relapse into their old condition.

The weight-for-height standard has been adopted after long-continued clinical experience as the best single test of nutritional condition that we have. To allow amply for natural variations in type and build, we have worked out a "safety zone" running from 7 per cent. under the average weight line to 20 per cent. above it. I have never found a child, or had one brought to me, whose weight-height ratio lay habitually below this zone, who did not show other clear signs of malnutrition.

The causes of malnutrition are many and various, but there are few cases which cannot be classed under one of the following five groups: Physical defects, especially naso-pharyngeal obstructions; lack of home control; overfatigue; faulty food habits, with improper and insufficient food; faulty health habits. We have tried many programs to overcome these causes, but have secured adequate results only when coöperation has been effected between the four forces which bear an essential relation to the child's health. These four forces are: the home; medical care; the school and other social agencies; and the child's own interest.

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*Address given at the Sociological Section of the National Tuberculosis Association, Washington, D. C., May 5, 1922.

In this summary of the "five causes" and of the "four forces" to remove them, the whole ground of the nutrition program is covered, and further discussion is only an elaboration of details. While largely medical, the problem is also fundamentally social, and the home factor is of the greatest importance. For this reason, with the first step in the program we seek the coöperation of the parents. Every child who is found to be underweight needs a thorough physical-growth examination, and we make it a rule that this shall be given only in the presence of one or both parents. Their help is needed in the case history and social examination which follows, and if a mental examination is required it is important that they be fully informed of the results.

When the nutrition class is organized we again urge the presence of the mothers at the weekly meetings, and in the social and medical directions there given they receive the instruction needed in each individual case. Health propaganda and general talks on hygiene serve an excellent purpose, but the actual results achieved through them cannot be compared with this direct coördination of medical care with the home.

The physical, mental, and social examinations, when made with proper care, serve to locate the cause in a large percentage of cases. There are always, however, a small number of children — problem cases — who call for further study such as can only be given in a well-organized diagnostic clinic.

The first of the five causes of malnutrition is especially evident in groups of "contact" cases, possibly because the physician who is looking for signs of tuberculous infection is less concerned with other physical defects. I have found 60 per cent. of diseased adenoids and tonsils in a group of pretubercular children who had been under care for months, and in some instances for over a year.

In no other group do we find more serious disintegration of the home, with a consequent lowering of the standard of control, which ranks second among the causes of malnutrition. The mother's care is necessarily centered upon the patient who is suffering from tuberculosis. Often the very stress laid upon adequate diet for the sick person leads to less care for the other members of the family. The old custom of breaking up the home when the breadwinner was tubercular subjected the children to various influences which did not make for harmony and control when the little flock was brought together again.

In working with families of this class I have been surprised at the failure of those who had them in charge to give training in the essentials of health. For example, a mother who had been under direction for several years for the care of a tubercular husband had not received elementary instruction in matters of hygiene and food for the rest of the family. She was thoroughly willing to learn, and responded immediately to teaching and suggestions on these subjects, bringing her children up to normal weight within a very short time.

Cases of overfatigue among children exposed to tuberculosis are almost too numerous to mention. This is partly a result of the lack of home control, but also due to failure to recognize that such children are unequal to the demands of a full school program. I have seen children who were on the waiting list of a sanatorium attempting to carry a school program planned for the full energies of a normal well child, and sometimes following extra studies, such as music and dancing, outside of school hours.

A further word is needed concerning the last of the "four forces" named—the child's own interest. This is one of the most important factors aroused by the nutrition class, and success is almost impossible without it. The child who has come into contact with tuberculosis needs encouragement. He requires training in mental hygiene, not only that he may coöperate in the necessary treatment, but that he may not be oppressed with the idea that his family is doomed by the great white plague. The child who is sent to a tuberculosis clinic is at once stigmatized by his companions as a "pip" case. A nutrition class or clinic suffers from no such handicap. This is one of the reasons why a tuberculosis association can work more effectively, with children, under some other name.

On the other hand, the national and state tuberculosis associations, through the hold which the fear of tuberculosis has upon the public, have acquired a prestige which is an important asset in promoting any kind of health work. Nowhere has our nutrition program been more effectively demonstrated than in the work of the local association of Rochester and Monroe County, New York. The recent exercises in that city, when 120 children were "graduated" with certificates of normal health, mark an epochal step in health work with children.

The nutrition program should eventually come under the Board of Education, but demonstrations such as this must first be made by private organizations in order to educate the public to support the new measures when at last the municipality takes them over. The position of the local tuberculosis association is particularly favorable for the work through its contact with the Board of Health and with all the societies concerned in social responsibility for the welfare of children.

The beginning made in Rochester with children of both school and preschool age very naturally extended itself to the young people who are entering industry. This period of life is one of great strain. The change from the comparatively simple life of home and school to the serious demands of industrial life calls for advice and counsel in the matter of health which few agencies are prepared to supply. The unit of this larger health program is the nutrition class adjusted to meet the conditions of employment. Here, as in the school classes, the weight chart serves as the most reliable indicator of the effect of the day's work on the child's health.

Classes can be established by many organizations and in many places, but a central organization is needed for general supervision and clinical research in order that the best developments may be constantly available. A broad program reaching out into private and parochial, as well as public, schools must be planned to meet the needs of an entire community, and the problems which constantly arise must be met in the right manner in order to gain and hold that public support which is essential to progress and permanency of results.

Up to the present time the teaching of nutrition and growth in medical schools has made little progress. But a start has been made, and it will not be long before these subjects are recognized as a fundamental requirement for all who undertake the problems of the prevention of disease. Our nutrition institutes, held primarily for the training of workers, have proved of value in the general program of educating the public to the importance of this work. Besides "selling the idea" of the value of nutrition work, they afford a means of contact between various organized agencies and persons who have already had training and experience along lines that fit into a broad program.

Results of the spread of these ideas are apparent in many places. In the clinics the main purpose is not merely to determine whether a child is sick, but also whether or not he is growing properly. In the schools there is growing appreciation of the difference in working capacity between well children and those who are underweight, undernourished, and malnourished. In the homes, parents are more and more returning to the practice of watching the child's weight throughout the growing period, instead of disregarding this important factor after the age of infancy.

Another important by-product—if I may use the term—is the reorganization of the home effected through the nutrition class. This is a result of the greatest significance. Through the instruction given to mother and child together we find that when we have rehabilitated a child we have also rehabilitated a home! A spirit of mutual helpfulness uniting parent and child makes for order and sanity. Such a home is a unit of strength in the community. Instead of chaos and anarchy, there is a condition of trust and security which makes for right living.

Every one of the "four forces" discussed must be recognized and applied in a comprehensive health program, but the keystone of the structure lies in homes of the right kind. Back of the clinic, the school, the industrial center, the summer camp, the preventorium, the sanatorium—back of every agency concerned in the welfare of children—must be home coöperation. This is the best means of vitalizing child health work, and of preventing malnutrition and tuberculosis. Divorce the home from the other factors, and the greater part of what we are attempting meets with failure. When the child is made well in his own home, both mother and child learn the essentials of health, and through this health education the reconstruction of the home is accomplished.

EXHIBIT A—LANTERN SLIDES.

Group 1. Photographs showing defects and deformities resulting from malnutrition: Round shoulders, spinal curvature, fatigue posture, ptosis, flat feet, lines under eyes, and anxious expression indicating depression and mental retardation.

Group 2. Views of an open-air school in Pawtucket, R. I., where 16 children were provided with midmorning lunches, Eskimo suits, cots for rest periods, playroom, and special teacher. The results of a year's work were a total gain of 2 per cent. less than the average rate of growth for the group because two of the essential forces were omitted, *viz.*: medical care, with complete examination, and home coöperation with the school program.

Group 3. Group photographs of graduates from nutrition classes in the Rochester public schools.

EXHIBIT B—A NUTRITION CLASS ORGANIZED BY MRS. R. K. EARLE.

A class of 14 children used to illustrate various points, among them the following:

A child who had received extraordinary care during infancy, but at the age of twelve was twelve pounds underweight for height. Her mother brings her to the nutrition class regularly, and is very helpful in assisting other mothers to bring their children up to normal. A case of splendid coöperation once the need was known.

A boy, the son of a physician, whose condition was not appreciated until he received the complete physical-growth examination. This showed curvature of spine, fatigue posture, and other defects.

A boy who failed to gain for a whole month during his mother's absence from the city. On her return he made a good gain.

Other children showing malnutrition due to overfatigue from too great school pressure or too many outside interests; also cases due to faulty food and health habits.

Sixteen nutrition classes are conducted in Washington, D. C., under the supervision of Mrs. Ernest R. Grant, of the Tuberculosis Association, co-operating with Dr. Joseph Murphy, Chief Medical Inspector of the Public Schools. A new class is to be started at the Juvenile Court at the request of Judge Sellars.

An interesting report is that of Miss E. S. Bailey, Nutrition Worker, showing the need of rest periods even during vacation. A class of 18 children who were warned against overfatigue at this time, and took their rest periods faithfully both morning and afternoon, gained 44 pounds during a two weeks' holiday. Another group of 18 who did not receive special caution before the vacation gained only 7.7 pounds in the same period. On the return to school the first group lost 9.7 pounds, and the second group 3.6 pounds, showing the effect of school pressure.

Miss Anita J. Turner, Assistant Director of Physical Education, reports 195 colored children enrolled in nutrition classes, which are held each week in place of the hour and a half allowed for physical exercise.

EXHIBIT C—CHARTS.

100 charts of the first graduates from this year's Rochester, N. Y., class.

A city-wide campaign is being carried on in Rochester through public, private, and parochial schools, orphanages, summer camps, preschool groups, and working children in industry, under the supervision of Herbert J. Norton, Physical Director of the Public Schools, and Mrs. Ethel M. Hendricksen, Executive Secretary, Tuberculosis Association of Rochester and Monroe County.

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SPECIAL TRAINING IN HOME NURSING.*

By Alfred Worcester, M.D., Waltham, Mass.

The modern profession of nursing and the modern science of avoiding and destroying disease-producing germs have been the two great factors in the wonderful advance of medical practice during the last half-century. Together they have changed hospitals from dreaded pest holes into popular life-saving institutions, which have increased many hundred-fold. Fifty years ago no patient who could possibly avoid doing so went to the hospital. Nowadays it is quite the fashion to be born or to die there, and for surgical operations as well as for medical treatment patients go to the hospital as a matter of course.

What is the effect upon nursing of this trend toward community hospitalization? In the first place, it is important to remember that the early schools of nursing were organized as educational institutions,—in more or less close connection with the hospitals, it is true, but still quite separate from them. The first and most famous, the Nightingale School at St. Thomas's, the Massachusetts General Hospital School and the Bellevue School in New York, were thus organized. Some smaller schools in this country also began independently of the hospitals, but, so far as I know, only the Waltham Training School still follows the Nightingale School in retaining its independence.

The hospital ownership of its training school, although so profitable to the hospital, is nevertheless in many ways a hindrance to the advance of the nursing profession. No professional school can be thus subordinated without the sacrifice of its educational ideals. The labor of an apprentice learning a trade goes rightly to the profit of the master. But nursing is certainly not a trade, and yet it cannot be considered a profession while the product of the pupil nurses' labor goes to the support of an eleemosynary institution or into the pocket of the hospital's proprietor.

The student of a true profession must pay for her education either in cash or in work that is its equivalent, but such payment must go entirely to the support of the School. Formerly, all professional schools were thus supported, but such schools now depend more or less largely, and in proportion to their excellence, upon their endowments. Large grants are being made for this purpose, but as yet very little has been given to nursing schools. The reason is plain. Educational funds cannot properly be given except to educational institutions, and this is one of the hindrances to the advance of nursing that comes from the hospital ownership of the training schools; but there is another hindrance even more serious.

It is not for the hospital's interest to train its pupil nurses for any other service than that needed in the hospital, and until a scarcity of applicants forced them to arrange for wider training, by combining with other hospitals or with visiting nursing institutions, even the special hospitals contented themselves with giving diplomas. This was an injustice both to the nurses and to the public, for graduates in nursing, as in medicine, are supposed to have had an all-round professional education, and not merely training for service in some specialty. Furthermore, between the hospital and the training school there is a conflict of interests; it is to the hospital's advantage to keep the pupil nurse in the work she has already learned to do well, while for the pupil's own sake her service should be changed as fast as she acquires proficiency. Were this educational principle followed, the usual course of hospital training might easily be shortened.

In the hospital ownership of the training school the most serious detriment is that the nurses during their pupilage are not trained for the kind of service most of them afterwards have to undertake, which is the nursing care of patients in their own homes. Although only hospital training can fit a nurse for hospital service, and although the fundamental principles of nursing can be taught in the wards, it is nevertheless true that hospital training alone does not and cannot fit a nurse for equally excellent home nursing service; and the great reason for the prevailing distaste of graduate nurses for private nursing is that most of them have not been adequately educated for it. Every nurse likes best to do what she can do best. If, for instance, she has proven her efficiency as an operating-room assistant, naturally she prefers such service to that of nursing a patient in his own home, unless, indeed, in the rare instances where the home has to be transformed into a temporary hospital for some surgical operation.

Probably few graduate nurses recognize their lack of special training in home nursing as the real reason of their distaste for it, and, in fact, there are other good reasons. For instance, private nurses are often employed by rich families where only lady's maid service is needed; too many hours of service are often expected; too little time is allowed for the nurse's recreation and sleep. Sometimes the food given is insufficient. Other members of the patient's family are not always agreeable associates, but all these reasons, and others like them, for the prevailing dislike of graduate nurses for home nursing, are only subordinate. The real reason is, as has been stated, that more than hospital training is necessary to fit a nurse for perfect service in her patient's home, and very few nurses have had this extra training. If they have acquired proficiency as private nurses, it has been only in the hard school of experience, and at great cost both to themselves and to the families served.

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*An address before the Middlesex County Nurses' Association, May 27, 1922.

What, then, it will be asked, is this necessary special training for home nursing? Obviously, only an outline of it, and the general principles involved, can be given within present limits.

There is no need of dwelling upon the necessity of getting along with only scanty or makeshift material, for the nurse's mother wit and common sense will triumph over such exigencies. Of far more importance than this usual shortage of proper material is the necessity of a self-dependence that cannot be acquired in hospital service where head nurses and house officers can be summoned to decide doubtful questions. Perhaps, out of the dim recesses of her memory the nurse alone must recall, if not the precise procedure, at least the general principle upon which her proper procedure depends. Fortunate for her if this first lesson in self-dependence comes while still a pupil nurse, before she is expected to know everything, and when from her instructor's next day visit she may receive competent endorsement or criticism of what she has done.

Training in the hospital teaches the nurse, besides her duties to her patients, her proper relation to the doctors, to her superiors, to her classmates, and to her juniors; but all she there learns of her proper relation to her patients' anxious families is how to shoo them out when visiting hours are over. In home nursing the sooner that particular lesson is unlearned the better, for success there depends upon utilizing for her patient's sake every anxious relative, all the friendly neighbors, and especially the servants. This requires an immense amount of tact. Some fortunate individuals are naturally tactful; some are not. But tact is acquirable; it is merely the effective expression of kindness.

Management of the family for the patient's advantage can be learned far more easily among those of moderate means than in wealthy homes. In this respect the pupil nurses, who generally are employed where high-priced graduate nurses could not be afforded, have a distinct advantage. Before graduation, before she is expected to know everything, it is far easier for the nurse to begin home nursing on a proper footing,—as the helper rather than as the superintendent of the family. Often the private nurse's greatest chance of helping, certainly at first, is in just standing ready and not in immediately supplanting the anxious amateurs who, of course, hate to surrender the care of their loved one.

"They also serve who only stand and wait."

Even if the nurse does know far better than the wife or mother how to take care *of* the patient, she does not care *for* him as they do, and for that very reason their clumsiness carries more comfort than her skill. The rough hands of the laborer may feel far tenderer to his suffering wife or child than the softest hands of the stranger nurse. Therefore, the nurse who has been trained only in the wards, and who considers herself in the same supreme charge of her private patient from the moment she enters his home, often fails not only to do what is best for the patient, but also often hurts the feelings of his family. Between assuming all the nursing service and undertaking that part of it which the family perhaps only gradually can be convinced they cannot so well perform, there is a vast difference; and the recognition of this essential difference,—between excellent and unacceptable service in home nursing,—is a hard lesson for fully trained nurses to learn. It is far easier learned by pupil nurses, and that is the great reason why pupil nurses' service is often preferred by families who do not even think of the greater expense of graduate nurse service.

In the wards the patient is considered only as an individual. In his home he is far more than that. The whole family is the real unit, and unless the home is made into a hospital, it is not possible for the nurse to give all her attention to the patient while ignoring the other members of the family. Sometimes it is necessary to make this transformation; but, if not necessary, such procedure is rightly resented by the family, if not also by the patient. Why, then, should he not have gone to a hospital? What comfort or advantage has he in staying at home?

Home nursing thus demands of the nurse not the service she has been trained to render, but an entirely different service. She knows how to establish hospital *régime*, but that is just what she must not do. Instead, she must rescue the imperilled home. And it is unfair to her, and to the public, to send her out to such service without sufficient preliminary training.

In the wards nurses very properly are conspicuous in the foreground. In the patient's home the more inconspicuous they are the better. The highest praise of the home nurse is that, except for the smoother running of the household, one would never know there was a nurse around. And yet, while never being in the way, the home nurse must be always on the job, always alert to ensure that every possible thing is being done for her patient's comfort and recovery.

Services that can be performed by other members of the family, or that they can be taught to render, should be considered theirs by right. Therein lies their greatest comfort. This is especially true at the last, when the patient cannot recover, and when even the highest skill is of no avail.

This faculty of self-effacement and of using others' anxious hands in the care of her patient can neither be taught nor acquired in the hospital. In the home, and only in the home, it can be, and the question is,—when?

The foundation principle of a nurse's education and training is that, before she is given any particular service, she shall be taught how to perform it, and so far as possible the reasons for doing it in that way. And her practice is then to be supervised until her work can be depended upon. The same principle should be followed in training a nurse for home nursing. This training can best be given during, not after, her pupilage, when she is teachable, and when her practice can be supervised by her teachers.

This method of preparing student nurses for home nursing has been employed in the Waltham School now for more than thirty-seven years, but it was not invented here. Sixteen years earlier in Lausanne, the School of La Source was founded upon the same principle which is still maintained there. In 1895 our Training School had the benefit of Florence Nightingale's criticism and advice. Her subsequent letter to our nurses in its frame hangs there on the wall. She deplored, even then, the prevailing trend towards the over-hospitalization of nursing to the neglect of home nursing. And she strongly advised us to take for our model the Metropolitan and National Nursing School. The special characteristic of that school, which was chosen as the model for the training of the Queen's Jubilee Nurses, was in the preliminary training of its pupils in home nursing before they were sent to the hospitals for further training. Only such as made good in this preliminary course were retained. After one year in the hospitals they came back to the school for further training in home nursing.

For now a full half-century I have been especially interested in nursing; I still consider it the most important adjunct to my own profession. As a boy I sometimes served as the night watcher of my sick school fellows. I knew Dr. Susan Dimmock, and some of her trials in establishing the first training school in this country. I have studied many of the famous schools here and abroad, and without further apology I offer these as my

CONCLUSIONS.

1. The greatest need of nursing service is now, always has been, and always will be, in the home of the patient.
2. For home nursing, special training is necessary.
3. This special training can be given only in the home.
4. And it can best be given during the nurse's pupilage.
5. It is unfair, both to the public and to the pupil nurses, for a training school not to include this special training in its curriculum.

AN INVESTIGATION OF THE RELIABILITY OF LABORATORY TESTS AND A DISCUSSION OF TECHNIQUE OF LABORATORIES IN AND NEAR BOSTON.

(Continued from page 479.)

By Francis H. Slack, M.D., Brookline, Mass.

Director, Sias Laboratories, Brookline, Mass., Instructor in Public Health Laboratory Methods, Massachusetts Institute of Technology.

Part 3.

MILK COUNTS.

A COMPARISON OF REPORTS FROM SEVERAL LABORATORIES ON IDENTICAL SPECIMENS.

The bacterial examination of milk has become one of the most important of health laboratory tests. However experts may disagree as to the healthfulness or harmfulness of bacteria in milk, there remain certain important facts which cannot be denied. All other circumstances being equal, milk produced under sanitary conditions contains fewer bacteria than that produced under unsanitary conditions. Milk kept cold contains fewer bacteria than milk not kept cold, and fresh milk contains fewer bacteria than stale milk.

The milk bacterial count, then, is an index of the cleanliness of production, the proper cooling of the product and of its freshness, and a high count indicates a failure in one or all three of these conditions.

Considerable criticism has been brought against the bacterial count of milk because of the varying results obtained when split specimens have been submitted to different laboratories, and it is well known that variations in the media used and in the technique will produce wide divergence in the results.

The object of this series of tests was, first, to learn the technique in use in the various laboratories in this vicinity and to compare the results obtained, then, if possible, to adopt uniform technique and again compare results.

Twelve laboratories agreed to coöperate in milk counts, but because of the distance of some of these from Boston the work was carried on for the most part by but nine.

The twelve laboratories are as follows: Boston Health Department, Brookline Health Department, Brockton Health Department, Somerville Health Department, Wellesley Health Department, Alden Brothers, Boston Biochemical Laboratory, C. Brigham Company, Harvard Medical School Bacteriological Laboratory, H. P. Hood & Company and D. Whiting Company.

Questions concerning the technique in use in these laboratories were answered as shown in the following table:

TECHNIQUE IN USE FOR BACTERIAL EXAMINATION OF MILK SAMPLES.

Laboratory	Miscroscopic estimate of bacteria	Method	Percent of plating saved	Percent of agar used for plates	Reaction of media	Meat Juice or Beef Extr
A	at times, not often	Slack	0	1-1/2 %	+.5 Fuller's scale	Beef Extr
B	Yes	"	0	"	+.5 to +1.	Meat Juice
C	"	"	Raw Milk 75%	1%	+1.5	"
D	"	Slack Breed	20-25%	"	+1.	"
E	"	Slack	0	"	-	Beef Extr or Dehydrated
F	"	Slack Breed	90%	"	+ 1.5	Dehydrated
G	No	-	-	1.2 to1.5%	+.5 to +1.	Beef Extr.
H	Yes	Slack	0	1.2%	+1.4 or +1.5	Meat juice
I	No	-	-	1%	+1.5	"
J.	Yes	Slack	0	"	+1.5	"
K	"	"	33%	"	+1.5	"
L	No	-	-	1-1/2%	+1. to+1.5	Beef Extr

The principal point of difference in the technique is in the composition and reaction of the media used.

For the first and second series of tests six specimens each were submitted, care being taken to keep them well iced and to deliver to the laboratories as quickly as possible. The results are shown in Tables I. and II.

Discussion of Milk Tests.—Tables 1 and 2.—Table No. 1 shows what discordant results may be expected when counts are made with varying media and technique. Laboratory D reported such consistently abnormal low counts that inquiry was made into the method of media making, and it was discovered that on account of an error in titration calculation, which evidently had been followed for years, this laboratory was working with an alkaline medium.

Other counts are so far wrong as to indicate serious technical error. For instance, Laboratory F's report on Samples 1 and 2, or Laboratory I on Sample 6.

Wide as the variations are, however, if we consider the results only in relation to the Boston Health Department standard of 500,000 to a c.c., it will be found that out of fifty-four reports but seven are in error, and three of these are from Laboratory D.

Table No. 2 shows the results of another series of tests. In this series there is a closer approximation of similar conditions since several laboratories obtained media from the Boston Health Department Laboratory.

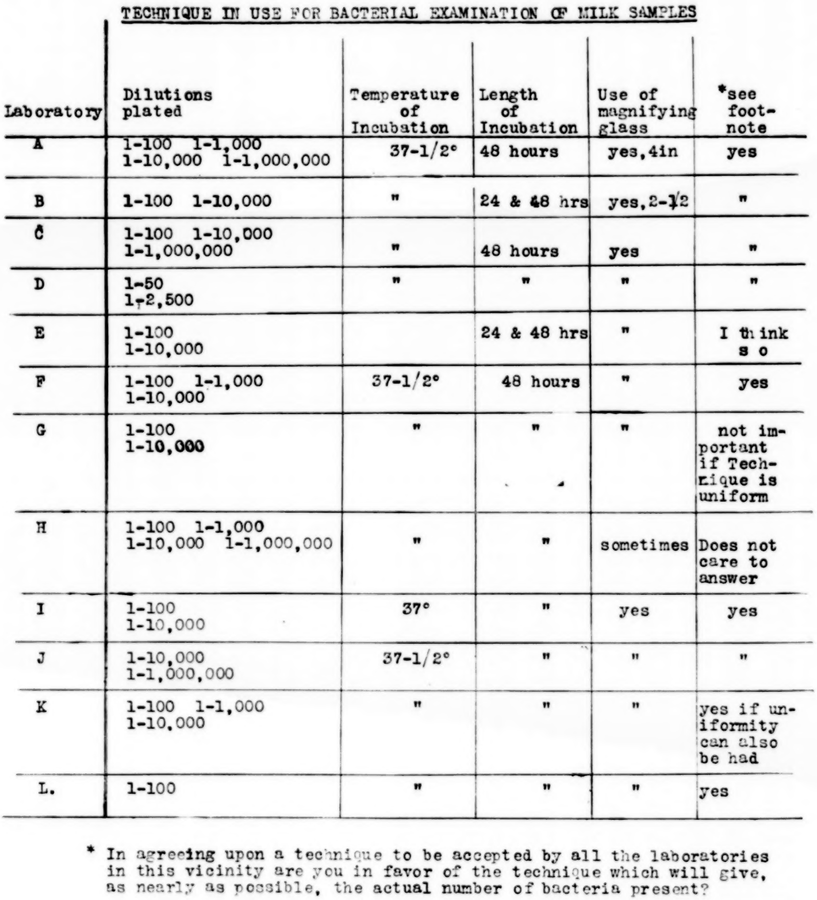
Laboratory F again reports counts on two samples, 5 and 6, which are difficult to explain, except by errors in technique. Laboratory D shows a similar report on Sample 2, and Laboratory A on Sample 4.

Judging the fifty-four reports from the 500,000 per c.c. standpoint, but two errors are shown: Sample 4 by Laboratory A, and Sample 5 by Laboratory F.

Technique for Milk Counts.—At a conference with seven of the coöperating laboratories represented it was unanimously agreed that a more uniform technique should be established and it was advised that laboratories of this vicinity use for the present as a medium for milk counts a meat-juice medium rather than one made with beef extract or other substitute; that this medium contain 1.2 per cent. agar, and, until such time as the laboratories shall become familiar with the hydrogen-ion titration of medium and shall agree upon the optimum reaction, the reaction shall be established by titration, using phenolphthalein as an indicator, and shall be +1.5 Fuller's scale.

Plates shall be incubated forty-eight hours at 37° C. in an incubator containing water.

Earthenware tops to Petri dishes may be



TECHNIQUE IN USE FOR BACTERIAL EXAMINATION OF MILK SAMPLES

Laboratory	Dilutions plated	Temperature of Incubation	Length of Incubation	Use of magnifying glass	*see foot-note
A	1-100 1-1,000 1-10,000 1-1,000,000	37-1/2°	48 hours	yes,4in	yes
B	1-100 1-10,000	"	24 & 48 hrs	yes,2-1/2	"
C	1-100 1-10,000 1-1,000,000	"	48 hours	yes	"
D	1-50 1-2,500	"	"	"	"
E	1-100 1-10,000		24 & 48 hrs	"	I think so
F	1-100 1-1,000 1-10,000	37-1/2°	48 hours	"	yes
G	1-100 1-10,000	"	"	"	not important if Technique is uniform
H	1-100 1-1,000 1-10,000 1-1,000,000	"	"	sometimes	Does not care to answer
I	1-100 1-10,000	37°	"	yes	yes
J	1-10,000 1-1,000,000	37-1/2°	"	"	"
K	1-100 1-1,000 1-10,000	"	"	"	yes if uniformity can also be had
L.	1-100	"	"	"	yes

* In agreeing upon a technique to be accepted by all the laboratories in this vicinity are you in favor of the technique which will give, as nearly as possible, the actual number of bacteria present?

Milk Counts

Table No. 1

Lab.	Dil.	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
A	Est	Occ. Org.	2,300,000	Occ. Org.	Occ. Org.	Millions too num.	Millions too num.
	1-100	3,300	336,000	8,200	spreader		
	1-10,000	0	260,000	30,000	10,000	1,940,000	1,340,000
	1-10,000	10,000	350,000	80,000	spreader	1,380,000	1,500,000
B	1-100	2,400	Uncount.	90,000	40,000	Uncount.	
	1-10,000	0	1,140,000	155,000	450,000	"	7,000,000
C	Est.	30,000	1,000,000	200,000	60,000	5,000,000	2,000,000
	Report	15,000	2,150,000	180,000	45,000	9,250,000	4,270,000
D	Est.	5,000	5,000	5,000	5,000	15,000	15,000
	1-100	0	16,000	10,000	10,200	80,000	130,000
	1-10,000	0	20,000	0	10,000	90,000	120,000
E	Est	O.K.	O.K.	Pus	O.K.	O.K.	L.G.I.
	1-100	5,500			26,000		
	1-10,000		2,900,000	120,000		1,800,000	1,100,000
F	Report	1,600,000	250,000	50,000	40,000	2,500,000	1,500,000
G	Est	Few	Many	Few	Few	Many	Many
	Report	5,200	2,330,000	62,000	24,000	18,000,000	10,800,000
H	Est	Few	Many + Strep.pres.	Mod.	Mod.	Many+++	Many+
	1-1000	5,000	+++	spreader	12,000	++++	spreader
	1-10,000	20,000	1,570,000	10,000	40,000	Est 4,000,000	1,860,000
I	Report	20,000	680,000	10,000	30,000	Unsatisfactory	80,000

Milk Counts

Table No. 2

Lab.	Dil	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
A	Est.	Very few	Very Few	Over a Million	Over a Million	Medium Clean	Very Few
	1-100	28,000	spreaders	Uncount.	154,000' Spr	70,000Spr	1,500
	1-10,000	30,000	40,000	3,100,000	80,000	220,000	2,000
B	Est	No. bact.	No bact.	Many bact.	Many bact	Few bact	no bact.
	Report	4,000	70,000	2,000,000	1,600,000	70,000	4,000
C	Est	50,000	90,000	7,000,000	4,000,000	200,000	20,000
	1-100	18,200	48,000	Innumer.	Innumer.	spreader	6,000
	1-2000	34,000	60,000			250,000	4,000
	1-2,000	30,000	68,000			258,000	6,000
	1-10,000			9,000,000	2,500,000		
	1-10,000			9,600,000	2,340,000		
	Report	18,200	48,000	9,300,000	2,420,000	254,000	5,000
D	Est.	30,000	5,000	2,500,000	1,500,000	230,000	0
	1-100	40,300	2,100	Uncount.	700,000	spreader	3,600
	1-10,000	60,000	0	2,000,000	800,000	410,000	10,000
E	Est	O.K.	O.K.	L.I.	O.K.	O.K.	O.K.
	1-100	53,200					3,500
	1-100	36,400					3,300
	1-10,000		230,000	2,500,000	9,500,000	310,000	
	Report	45,000	230,000	2,500,000	9,500,000	310,000	3,400
F	Report	40,000	250,000	13,500,000	9,600,000	900,000	100,000
G	Est	Few	Numerous	Uncount.	Many	Numerous	Some Clumped
	Report	20,000	68,000	870,000	4,700,000	110,000	3,600
H	Est	Few	Few	Many+	Many-	Mod	Few
	1-100	21,000	12,000	+++	++	37,000	5,100
	1-10,000	40,000	30,000	2,790,000	600,000	60,000	10,000
I	1-100	32,000	121,000	Uncount	Uncount	78,200	4,800
	1-10,000	30,000	110,000	5,850,000	6,800,000	310,000	20,000

Milk Counts

Table No. 3

Lab.	Dil.	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6
A.	1-100	29,500	1,300	2,600	Over 2½Mill.	46,800	3,400
	1-10,000	120,000	0	0	"	490,000	90,000
B.	Est.	Few	0	Few	Many	Few	Few
	Report	250,000	2,550	21,100	Over 2½Mill.	110,000	23,000
C.	Est.	150,000	10,000	20,000	Over 2 Mill.	60,000	100,000
	1-100	110,000	1,400	2,000	Innum.	37,000	25,700
	1-100	100,000	1,600	1,600	Innum.	36,400	26,500
	1-10,000	100,000	0	0	2,800,000	40,000	20,000
	1-10,000	120,000	0	0	2,700,000	30,000	50,000
	Report	110,000	1,500	1,800	Over 2½Mill.	36,700	26,100
D.	Est.	110,000	10,000	30,000	Over 2½Mill.	30,000	20,000
	1-100	38,000	8,000	11,000	"	33,000	19,000
	1-10,000	140,000	10,000	50,000	"	50,000	20,000
E.	Report	205,000	285,000	5,500	"	45,000	50,000
F.	1-100	120,000	5,000	10,000	"	100,000	50,000
	1-10,000	250,000	10,000	20,000	"	150,000	70,000
G.	1st Dil.	70,000	3,500	40,000	"	95,500	67,000
	2nd Dil.	60,000	10,000	30,000	"	90,000	60,000
H.	Est.	Few	Few	Few	Many +++	Few +	Few
	1-100	130,000	2,600 2,300	6,100	++++	34,600	65,000
	1-10,000	130,000	0 0	10,000	Over 2½Mill.	60,000	60,000
I.	No report received from this laboratory.						
J.	Report	180,000	2,700	5,800	Over 2½Mill.	180,000	23,000

used in preference to glass tops, in order to control spreaders as far as possible.

Dilution water bottles must be filled sufficiently to overcome the loss by evaporation during sterilizing.

It was also agreed that as soon as time had been allowed for the various laboratories to conform to these requirements another series of tests would be run, each laboratory to report on but two dilutions, 1-100 and 1-10,000, all 1-10,000 plates containing over 250 colonies to be reported "over 2,500,000."

The results of this third series of tests appear in Table No. 3.

While some returns in this report indicate technical errors (Laboratory E report on Specimen 2 and Laboratory A on Specimen 5—1-10,000 dil.), the returns as a whole are very uniform and show what can be done when like technique and media are used.

Considered from the standard of 500,000 to a c.c., there are no errors in this report, but every worker agrees on every sample.

Some such uniform methods should be universally adopted, methods which, as nearly as possible, will give the actual number of bacteria present per cubic centimeter in the sample tested.

(To be continued.)

Medical Progress.

REPORT ON OBSTETRICS.

By Robert L. DeNormandie, M.D., Boston.

ABDOMINAL PREGNANCY FOLLOWING HYSTERECTOMY.

McMillan and Dunn[1] report a case of abdominal pregnancy following a hysterectomy. In 1918 McMillan did a hysterectomy on the patient. In the following year she presented herself with an abdominal tumor, which they determined to operate upon.

Upon opening the peritoneum a thin amniotic sac filled with fluid presented. They then opened the amniotic sac and removed an eight and a half pound baby. The baby was dead and macerated. The placenta was slowly and carefully separated from the left flank under the spleen, practically incarcerated by the greater omentum. Considerable bleeding followed, but this was controlled by hot packs, and a stab drain opening over the left ilium was made. The patient went off the table in excellent condition. She made an excellent recovery in three weeks.

A year later she presented herself and she was found again to be pregnant. When she was about four to five months pregnant she had a sudden sharp pain in her left side and was found pulseless, very white, tossing in bed, knees drawn up, abdomen distended. The patient was taken at once to the hospital and immediately the abdomen was opened. Two pints of clear blood were obtained in a sterile basin and this was given back to the patient intravenously with a 2½% solution of sodium citrate. Examination of the peritoneal cavity showed a mass which presented the appearance of a normal uterus on the right side, with a short distal end of a right tube and about half of a normal appearing ovary. At the left side of this mass was the protruding amniotic sac with a bulging mass of bleeding placental tissue which had a strong attachment to the sigmoid flexure. The amniotic sac was ruptured and a boy baby weighing about four pounds was removed. The operator sutured all bleeding points and closed the artificial half uterus. The patient died very shortly afterwards.

In the discussion of this case, which was presented before the Chicago Gynecological Society it was shown that a complete hysterectomy had not been done, as was thought at the first operation.

OBSTETRICAL PARALYSIS OF THE PERONEAL NERVE.

Whitman[2] reports a case of paralysis of the peroneal nerve from pressure upon the main trunk of the sciatic nerve in its intrapelvic portion. He says it occurs during prolonged or difficult labor, either from direct pressure of a large head in a small pelvis or from trauma by application of forceps. In looking over the literature on the subject, Whitman finds very little about it.

He reports the following case: The patient, aged 43, complained chiefly of paralysis of the left foot. She had been married seventeen years and had seven children alive and well, and two stillbirths. The present illness dates from eleven weeks ago. Labor began on a Friday night and continued until Sunday morning, when at ten o'clock forceps were applied and child delivered with considerable difficulty, weighing ten and a half pounds. Patient at once complained after delivery of great pain in both legs, and inability to move the left foot. Pain gradually wore off, and on the eighth day postpartum she attempted to get up, but was unable to walk because of the foot giving way under her. Since then she has been doing her work, supporting herself by clinging to the furniture. About one month ago power began to return to the flexors of the toes and the calf muscles, which have steadily been growing stronger. No disturbance of sensation.

Physical examination showed on the left side there is a drop foot, resulting from complete paralysis of the extensors of the toes, the tibialis anticus and posticus and the peronei. The flexors of the toes and the calf muscles are apparently normal. No disturbance of pain or temperature sensations, superficial or deep. Motion of both hips is free and painless. No sign of injury to the sacro-iliac joints or to the pelvis.

Whitman says that the diagnosis lay between two possibilities. Injury to the main trunk of the sciatic nerve where it crossed the pelvic brim, or injury to the peroneal nerve where it winds about the head of the fibula, from compression of the strap in the leg-holder. The second injury is much the more common, but in this case Whitman thinks that it was due to the first cause, because the tibialis posticus was paralyzed.

The patient was given a brace, and with the help of baking and massage and passive motion improvement in the gait was steadily seen, but no muscular improvement whatever was noticed.

Whitman states that the prognosis as to complete recovery in such cases should be extremely guarded, and he suggests that immediate orthopedic and neurological examination should be made, and suggests that in these cases proper apparatus should be immediately applied to prevent deformity.

The article closes with a list of references on the subject.

UTERO-PLACENTAL APOPLEXY IN ACCIDENTAL HEMORRHAGE.

In a most interesting paper Willson[3] goes over the history of accidental hemorrhage. He reports in his article a case which he had in his own practice and then in detail analyzes the clinical and pathological data of sixty-eight cases which he finds in the literature.

The case he reports is a typical one of accidental hemorrhage, the classical symptoms were all present. The diagnosis apparently was very easily made, and Willson performed a Caesarean section. On opening the abdomen a considerable quantity of blood-stained serum was found in the peritoneal cavity. The uterus showed a mottled ecchymotic look, the colors ranging from that of a normal uterus through blue almost to black. The discoloration was greater in the region of the left cornua. Both the anterior and posterior walls were involved. In addition to the discoloration, a peculiar fissured appearance was noted. The fissures seemed to run in the main parallel to the long axis of the uterus. The peritoneum was not torn through. The uterus contained over a quart of fluid and clotted blood. The fetus, which was dead, was removed. The uterus at first failed to contract and then acted better. It was finally closed by interrupted sutures. The patient went back to bed in poor shape and died three hours after the operation.

An autopsy was obtained and microscopic findings are of interest. Central necrosis of the lobules of the liver was present, showing especially a slight biliary pigmentation and slight fatty degeneration. The kidneys showed an acute parenchymatous degeneration of a marked degree, involving especially the convoluted tubules. The uterine musculature appeared normal with the exception of marked hemorrhagic extravasation between the bundles of muscle fibers. The placenta was apparently normal with the exception of a slight hyaline appearance of the stroma of the villi.

Willson analyzes in detail the data he has found in the sixty-eight cases, and a short summary of his findings follows. The period of gestation was mentioned in only fifty-eight cases. As far as Willson could determine, five cases occurred in the seventh month, ten in the eighth month, twenty-one in the ninth month, and twenty-two cases at term. In regard to the symptoms of toxemia, albumin was present in large amounts in forty-four cases. The blood pressure was only mentioned in nine cases, and in these nine the systolic pressure varied from 100 to 280. In seven cases there were no symptoms of toxemia, while there were definite symptoms of toxemia noted in forty-eight cases. Of the sixty-seven cases where the character of the bleeding could be determined, forty-six showed frank or combined type of bleeding. In thirty-six cases the placenta was separated completely, in twelve it was only partially separated, and in the others it was not noted.

Patients were delivered by the Porro operation twenty-one times, twenty-one times by conservative Caesarean section. Abdominal hysterectomy without opening of the uterus four times, vaginal hysterectomy twice, abdominal hysterectomy for rupture of the uterus once, extraction of the fetus by vagina, spontaneous delivery four times, abdominal hysterectomy to control postpartum hemorrhage was done three times, and three patients died undelivered. There were thirty-eight maternal deaths, and sixty-two fetal deaths. Of the children that survived, all were delivered by Caesarean section, there being no case in which the fetus survived through delivery by the vagina.

Willson goes into detailed analysis and study of the pathological data. In speaking of the myometrium, he calls attention to the constant finding of a hemorrhagic process present under the peritoneum. The observations regarding the condition of the muscle fibers themselves are rather contradictory. The decidua show changes which are always more marked in the decidua basalis than in the parietal decidua. The blood-vessels showed no uniformity, except the fact that they were markedly congested. In twenty-two cases out of thirty-one, it was noted that there was marked intraperitoneal effusion. The broad ligaments were involved in twenty-six, the tubes in eleven, and the ovaries in four cases. The placenta has not shown any marked pathological changes.

Willson reviews the theories regarding the causation of accidental hemorrhage, and puts forward himself the hypothesis that there is a hemorrhagic toxin, liberated by the placenta, which produces its maximum effect locally at the site of its inoculation, so to speak, and secondarily produces manifestations of a general toxemia.

Willson closes his article with a long bibliography on the subject brought up to date.

TREATMENT OF PREGNANCY COMPLICATED BY VALVULAR HEART DISEASE.

Heaney[4] writes of the method of managing pregnancy complicated by valvular heart disease, from an obstetrician's point of view, and takes a very conservative attitude in regard to the way they should be delivered, bringing up the point that not only must the patient be delivered in the safest way, but that the post-delivery convalescence is as important as the delivery itself. He warns of the results that come from doing Caesarean section on all heart cases, and comes to the conclusion that physicians are not justified in refusing pregnancy to women with accidental or symptomless heart murmurs, and gives a word of warning that women who have had recent broken compensation or broken compensation in a preceding pregnancy enter pregnancy greatly jeopardized and that Caesarean section is not a ready and complete solution of the delivery of a woman with a broken compensation, adding that abortion for heart disease should have sterilization added to it when this can be done with but little additional risk.

THE TWO-FLAP LOW INCISION CAESAREAN SECTION.

Beck[5] brings forward a low incision for Caesarean section which he thinks is applicable after an efficient test of labor. He states that peritonitis was the cause of over ten per cent. of deaths of patients operated upon at the Long Island College Hospital after a test of labor, and in order to avoid this high mortality he has developed his so-called "two-flap incision." The uterus is exposed through a mid-line incision below the umbilicus. The peritoneum is incised transversely about two centimeters above the bladder. A lower flap is obtained by stripping the bladder off from the anterior surface of the uterus. The upper flap is made by gently passing a pair of scissors under the peritoneum. The uterus is incised in the mid-line after exposing the denuded area by retracting the two flaps. The extraction of the child is accomplished by the hand with downward pressure on the fundus. If necessary, forceps may be used to facilitate the delivery. Before separating and removing the placenta, a catgut suture is passed through the lower angle of the uterine wound, in order to prevent the uterus from sinking into the pelvis. A similar suture is placed in the upper angle of the incision. Traction on these two sutures brings the entire wound into view and protects the peritoneal cavity while the placenta and membranes are being removed. In certain cases the placenta and membranes may be forced down through the cervix into the vagina. The incision in the uterus is closed by two series of interrupted sutures. The upper peritoneal flap is brought down over the superior portion of the closed uterine incision, and secured by several interrupted sutures. The remainder of the denuded surface is covered by bringing up the lower flap above the original incision. In this manner the peritoneal flaps thoroughly seal the wound in the uterus.

Beck shows the charts of the twenty-nine cases operated upon according to this technique. Fourteen cases, Beck states from the chart, were probably not infected at the time of operation. Other charts show cases which had been in labor from ten to twenty-four hours or more, some with membranes ruptured and a number with vaginal examinations made. All the patients recovered, and in only eight did infection appear.

Beck's conclusions are that this technique will eliminate the consideration of elective Caesarean section in border-line cases of dystocia, and by permitting the use of an efficient test of labor, most of these patients will be delivered through the natural passages. The few that fail may, with some slight added risk, be delivered by the use of the technique he describes. He recalls that potentially infected cases frequently are not infected, and that whenever our opinion in this respect is erroneous, this technique does not sacrifice the non-infected uterus, but preserves the functions of menstruation and reproduction.

He finally concludes that his mortality from this operation will be less than ten per cent., and claims that the two-flap low incision Caesarean section should be given preference.

ACTION OF THE ECBOLICS IN THE FIRST STAGE OF LABOR.

Rucker[6] has utilized the Voorhees bag placed within the uterus in order to study the variations in pressure that take place within the uterus in the first stage of labor, as the result of giving the drugs commonly used at this time. He records his observations graphically, but he does not go into the details of the technique used. His article contains several graphic records of the results following the use of various drugs.

He concludes that by this means there is presented an excellent opportunity to observe the action upon the uterus of the drugs commonly used in obstetrics. From his limited observations it would appear that hyoscine has a moderate but rather constant ecbolic action in the first stage of labor. The action of quinine is more variable. His observations upon the action of strychnine, castor oil, ergotol and the fluid extract of ergot are too limited to warrant even a tentative conclusion.

In the cases in which pituitrin was used even in minute doses, there was a continued contraction of the uterus that varied from nine to thirty-five minutes in duration, and Rucker feels that this is probably the explanation of the many disasters that have followed its use.

PITUITARY EXTRACT AT THE BEGINNING OF THE THIRD STAGE OF LABOR.

Brodhead and Langrock[7] gave to one hundred consecutive patients, immediately after the birth of the child, one c.c. of infundin, hypodermically, in order to ascertain its effect upon the delivery of the placenta. In 19 cases the placenta was expelled spontaneously. The minimum time in one case was four minutes, and the maximum time was eighteen minutes. In 78 cases Crede's method of expression was used. In three cases the placentae were manually extracted. In 26 cases the amount of blood lost did not exceed 30 c.c. The maximum lost in a primipara was 525 c.c., in a multipara, 1,230 c.c. The average amount of blood lost in all the cases was 135 c.c. In 77 cases the blood lost after the third stage was completed did not exceed 30 c.c. for a period of one hour following the delivery of the placenta. The maximum amount of blood lost in primiparae was 750 c.c., and in multiparae 850 c.c.

The authors feel that in the vast majority of cases the method as outlined is safe and valuable in minimizing the loss of blood. They also feel that the uterus must be observed just as carefully as when pituitrin is not given. The only drawback to the method is the possibility of irregular or hour-glass contraction of the uterus. The authors recognize the fact, however, that this complication occurs independently of the use of pituitrin, and they say that further investigation will be necessary to show whether this complication is directly attributable to pituitrin or not.

LOW CERVICAL CAESAREAN SECTION.

De Lee and Connell[8] report 145 cases of low cervical Caesarean section with much the same technique as Beck describes in his paper. These authors state that this technique was used several years before Beck published his article. The main difference between the two techniques is that De Lee and Connell use a special knife to make the uterine incision and that they "reunite the fascia over the lower uterine segment with a special row of catgut sutures." They further use a vacuum pump in order to suck out the blood and liquor amnii from the operator's field.

From this paper one gathers that they would perform this operation in the great majority of cases where a Caesarean is indicated, reserving the old classical Caesarean section for special indications. They give to this operation the name laparotrachelotomy and claim the following advantages for it.

1. The cervix stands infection better than the fundus.
2. The lower portion of the abdomen is more resistant to infection.
3. The cervical wound is at rest and can heal in peace.
4. The healing of the cervix is better than that of the fundus.
5. There is relatively little danger of leakage of the lochia.
6. The incidence of adhesion is reduced almost to zero.
7. The possibility of rupture of the scar in subsequent pregnancy is reduced to the minimum.
8. By this technique the patient is given a real test of labor.
9. Abdominal hernia has not occurred.

THE END-RESULTS OF ABDOMINAL CAESAREAN SECTION.

King[9] analyzes 117 Caesarean sections done at the Charity Hospital in New Orleans by twenty-five operators, and 33 private cases done by five operators. In these cases there occurred six ruptured scars. Two of these patients died, the others recovered, one having to have a supravaginal hysterectomy. King's article contains some interesting tables which are too complicated to abstract.

King comes to the conclusion that we should restrict rather than broaden our indications for Cesarean Section.

HEART IN PREGNANCY.

Smith[10] reports a series of clinical observations which were supplemented by electrocardiographic studies, in order to determine what changes, if any, were induced in the heart by pregnancy. His article contains several electrocardiograms illustrating his investigations. His conclusions are as follows:

1. Pregnancy in itself does not cause cardiac enlargement.
2. Such evidences of cardiac enlargement as may appear under certain circumstances disappear under other circumstances.
3. Cardiac enlargement, in the latter half of pregnancy, can be simulated by the upward pressure of the gravid uterus.
4. There are no heart affections which are characteristic of, or incident to, pregnancy.
5. While pregnancy throws a load on the heart it is fully capable of adapting itself to this demand.
6. A definite history of previous infections requires that the expectant mother be closely observed for symptoms of masked heart disease.
7. Focal infections may cause symptoms of heart embarrassment in pregnant patients which might erroneously be attributed to pregnancy.
8. Definite cardiac indications for the interruption of pregnancy are rare. Even frankly diseased hearts will exhibit a surprising adaptability to the physiologic demands of pregnancy.

INTRAVENOUS INJECTIONS OF GLUCOSE IN TOXEMIA OF PREGNANCY.

Titus and Givens,[11] following their success in treating the toxemias of early pregnancy by the intravenous injections of glucose, decided to try this treatment in cases of eclampsia.

The solution used contained usually 75 gm. of glucose dissolved in 500 c.c. of distilled water, and sterilized at 15 pounds pressure for thirty minutes. The rate the solution was given was controlled to a certain extent; the entire volume was introduced in thirty minutes, but the authors state that there was no indication of harm to a patient if a more rapid flow occurred. They prefer to give single doses, repeated as required, rather than to attempt a continuous flow for any considerable period of time.

Recognizing that the liver is the carbohydrate storage organ of the body and that, in fatal toxemias of pregnancy, it undergoes degeneration and necrosis, the authors endeavored to devise a test which would indicate the degree or extent of liver impairment. The test is as follows: A specimen of blood is taken for blood sugar determination and then a given amount of glucose is injected intravenously, taking a definite length of time for the injection, after which another specimen is taken for blood sugar. Blood sugars are then done at stated intervals and from them a glycemia curve is plotted.

The writers conclude:

1. That the usefulness of glucose and other carbohydrates seems to be based on the fact that in toxemia of pregnancy there is a carbohydrate deficiency in the maternal organism.
2. That disturbances in kidney function are probably secondary to the hepatic changes.
3. That as a result of intravenous administration of glucose, in cases that this was used, there was, in individual patients, immediate clinical improvement and a general lowering of the mortality rate.
4. That the usual autopsy findings in the liver of patients dying from any toxemia of pregnancy are distinctly altered if this treatment is used. Those portions of the liver lobules, which are ordinarily necrotic, are restored to a marked degree and, in most cases, a diagnosis of eclampsia could not be made from an examination of the liver sections alone.
5. That the regeneration of the liver cells after injection of glucose, at least partially, restores the normal functions of the liver, especially in respect to its action as the detoxicating organ of the body.
6. That from these investigations it is thought that the rate of absorption and storage of the injected sugar is an index of the condition of the liver.

STUDY OF THE SCAR IN REPEATED CAESAREAN SECTIONS.

Gamble[12] analyzes the cases of repeated Caesarean sections which have been done at the Johns Hopkins Hospital, with special reference to the healing of the scar, and the occurrence of rupture through it.

Gamble studies the cases under the following headings: infection, suture technique, suture material, situation of the incision, incision into the placenta over the old scar. He gives most interesting detailed descriptions of twenty uteri that were removed, and his article is illustrated by photographs of some of the specimens obtained. Gamble states that at Johns Hopkins, patients are sterilized after the third Caesarean section, for it is felt that when a patient has been subjected to the risk of three major operations she should be relieved of the added danger of a ruptured scar which must inevitably become increased after each subsequent operation.

Gamble's conclusions are: A weak Caesarean scar may be due to a combination of factors, the most important of which is infection. A febrile puerperium does not give an absolute assurance of perfect wound healing. The uterine wound should not be closed, if possible, until firm contraction of the musculature has occurred. Usually fetal elements do not invade the uterine scar. The dictum "Once a Caesarean, always a Caesarean" can not be accepted without considerable observation. A patient, who has once been subjected to a Caesareaen section, should enter the hospital several weeks prior to the expected date of confinement so that she may have the benefit of immediate operation should rupture occur.

TUBERCULOSIS IN A STILLBORN FETUS.

Whitman and Greene[13] report of case of miliary tuberculosis in a stillborn fetus. Autopsy showed tubercular lesions in the lungs, with many calcareous nodules. Microscopic lesions were also found in the adrenals, kidneys, ovary, and brain. The placenta also showed numerous caseous nodules. The writers were able to find 113 authentic cases of prenatal tuberculosis, and their conclusions are:

1. Prenatal tuberculosis has ceased to be a mere curiosity of the laboratory, and has become a pressing problem of the sanitarian.
2. The facts at hand are significant enough to command the active employment of every agency by which further facts may be elicited.
3. To the extent that the spread of the disease is due to prenatal, rather than postnatal, infection, present methods of control must be revised and amended, even at the expense of those sentiments of compassion and tolerant forbearance by which our present efforts are so notably handicapped.

CHEMICAL OBSERVATIONS ON THE TOXAEMIAS OF PREGNANCY.

In a most interesting, though highly technical paper, de Wesselow[14] reports his studies of an attempt to estimate the value of chemical methods of investigation in the toxemias of pregnancy. Because the brunt of the damage, in these conditions, falls on the liver and kidneys, de Wesselow has tried by chemical examination of the functions of these organs during life to determine the extent and progress of the lesions. He reviews the work that has been done on estimating renal efficiency, which he feels is satisfactory. In dealing with the hepatic function he says that at present there is no simple and accurate method that is available. In his studies he made use of the following methods: In the blood, he studied the urea, the non-protein nitrogen, the fibrinogen and the plasma lipase; in the urine, the total nitrogen urea and the ammonia. The blood pressure was taken and the urea test, as shown by the concentration, estimated for three consecutive hours after a dose of 15 grammes. He discusses fully his findings of normal pregnancy, mild toxaemias, and eclamptics, not only in the light of his own studies but in conjunction with other investigators of the same subjects. His findings are all carefully tabulated.

He concludes that there appears to be no definite evidence that we can detect the presence of a liver lesion in these cases of toxemia. In the limited number of cases studied there was no evidence obtained, but the methods employed, of a differentiation into groups, or were there any definite differences detected betweeen those complicated by convulsions and those in which no convulsions occurred.

There was no evidence of the existence of an hepatic as distinct from a nephritic toxaemia of pregnancy. He further concludes that a definitely raised urea content of the blood, that is to say, under the conditions obtaining in pregnancy, a blood urea above 40 mgrms. per 100 c.c. is proof that the kidney is severely damaged, and is an indication for induction of labor. If the blood urea is not raised, the urea concentration test gives valuable evidence of the condition of the renal function, and when the figure obtained is below 2 per cent., termination of the pregnancy should be considered. In cases in which a low diastatic is present, chronic disease and a less complete recovery are suggested. de Wesselow says that by estimations of the renal efficiency, in the absence of any satisfactory hepatic function tests, by the methods suggested we may be able to arrive at definite criteria for interrupting the pregnancy and thereby favorably influence both the immediate and ultimate results of the toxaemias of pregnancy.

PREGNANCY AND HEART DISEASE.

Pardee[15] in his studies of the fitness for pregnancy of patients with heart disease, has grouped these patients according to their reaction to exercise. He studies the patient's symptoms, when housecleaning and climbing stairs, to find out how much she is restricted in her activities by the appearance of shortness of breath or palpitation. She then is put through a test exercise which consists of standing with feet separated and swinging a ten-pound dumbbell, in both hands, from over her head to as near the floor as she can conveniently reach, repeating the movement about once every two seconds. Pardee says this test can be repeated twenty times without difficulty, but all cases must be carefully watched for any possible distress. By his observations he says a normal pregnant woman can do this test without distress and with only a slight sense of breathlessness. The pulse will quicken to 120 a minute, counting for the first ten seconds only, but at the end of one minute the respiration will be normal and the pulse nearly so. Patients who were not troubled by what they considered unusual dyspnoea or palpitation on exertion before pregnancy, and who did not develop this during the present pregnancy, provided they showed a normal reaction to the test exercise, were placed in Group 1. Those patients who were not bothered by unusual dyspnoea or palpitation before pregnancy, but who had complained of this during a previous or the present pregnancy, and who showed either a normal or moderate reaction to the test exercise were placed in Group 2. If these patients showed a markedly increased reaction they were placed in Group 3.

All patients who had unusual dyspnoea or palpitation on ordinary exertion, before pregnancy, and showed added symptoms during pregnancy, were put into Group 3. These patients showed a moderately increased reaction to the test exercise, but if the reaction was markedly increased they were put in Group 4.

Group 4 consisted of patients who had been troubled by unusual dyspnoea before pregnancy, and whose symptoms had been markedly accentuated during a previous or the present pregnancy, so that the patient had to remain in bed for a time. These patients all showed markedly increased reactions to the test exercise.

Under this grouping Pardee studied thirty-four patients. There were seventeen cases in Groups 1 and 2, and none showed serious signs of cardiac overstrain during labor. Two patients in Group 3 died, but neither was in labor, and the two that died in Group 4 were during or immediately after labor.

Pardee feels that this grouping is very useful in prognosis, and also of great help in the management of those pregnancies which fall into Groups 3 and 4. He feels that women who fall into these two groups should be allowed to undertake pregnancy only when there is some very special reason, or when they are ready to keep themselves under the constant supervision of a physician who is accustomed to handling such cases.

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Book Reviews.

The Practice of Medicine. By A. A. Stevens, A.M., M.D. 1106 pages. Philadelphia and London: W. B. Saunders Company. 1922.

There already exist many medical textbooks the contents of which are similar and presented in the same standard manner, and this "Practice of Medicine" differs from them in no essential way.

The author has indicated the important issues of the day, and, most desirably, has drawn only conservative conclusions. The work is complete and carefully prepared. The book is up to date, but except for this it serves no purpose not fulfilled by other good textbooks of medicine.

It is unfortunate that the author, with his extensive and serviceable clinical experience, did not avail himself of the opportunity of presenting the subject in a more modern manner, as is to be found in certain articles appearing in the Oxford and Nelson Systems of Medicine.

The few selected references are well chosen, yet, unfortunately, are incompletely given. The book serves a useful purpose in that it adds another good textbook of medicine to the list of those already published.

Submucous Resection of the Nasal Septum. By William Meddaugh Dunning, M.D. New York: Surgery Publishing Co.

"This book is primarily a monograph giving in clear and concise detail the individual technique and results of the author. It is a helpful contribution to the subject.

"One could wish that the operative technique had been presented on a broader basis. The briefness of the article hardly warrants its publication in book form as an authority on the subject of 'submucous resection of the nasal septum.' "

Diseases of the Eye. Charles H. May, New York: William Wood & Co. 440 pages. Price $3.50.

A new edition of "May" has just been received from the publishers, William Wood & Co.

This book has long occupied a preëminent place as a manual in the field of Ophthalmology. The 10th edition is sure to make its place more secure with the student and the practitioner who desires a handy book on this subject.

The publishers have retained the same excellent form as in other editions.

Diseases of the Eye. George E. de Schweinitz. Philadelphia and London: W. B. Saunders Co. 832 pages. Price $10.

De Schweinitz's new Ninth Edition, "Diseases of the Eye," presents the last word in this field of Ophthalmology. The work has been thoroughly revised and much new material added. The influence of the late war is apparent in many sections and is particularly shown in the department of plastic surgery.

The chapter on Skiascopy has been revised, as have several others. Among numerous new articles might be mentioned a section on Ophthalmoscopy, with Red-free Light, and also Verhoeff's method of Electrolytic Punctures for Detachment of the Retina.

This author's work has always been popular with the oculist and the new edition should enhance its standing.

The volume is published by Saunders and Co., so nothing more need be said concerning the typography.

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Current Literature Department.

ABSTRACTORS.

Gerardo M. Balboni
Laurence D. Chapin
Austin W. Cheever
Isador Coriat
Ernest M. Daland
Horace Gray
Robert M. Green
John B. Hawes, 2d
John S. Hodgson
Fred S. Hopkins
Chester M. Jones
Charles H. Lawrence
Herman A. Osgood
Francis W. Palfrey
Edward H. Risley
William M. Shedden
George G. Smith
John B. Swift, Jr.
Wilder Tileston
Bryant D. Wetherell

AN EXPERIMENTAL STUDY OF METHODS FOR BRIDGING NERVE DEFECTS.

WITH A DESCRIPTION OF A NEW METHOD OF AUTOTRANSPLANT (AUTO-AUTOTRANSPLANT).

Sachs, E., and Malone, J. Y. (*Archives of Surgery*, Sept., 1922).—These authors write as follows:

Three methods of bridging defects in nerves have been studied by a combination of physiologic and histologic methods.

It has been shown that nerve fibers will grow down the trunk of a healthy nerve through a longitudinal incision without impairing its function and part of the fibers connect up with the peripheral end. It is, therefore, of distinct advantage to implant the central end of a cut nerve as well as the peripheral end.

On account of the branching of regenerating fibers, enough axons are produced when a nerve is cut longitudinally to fill the sheaths in the implanted nerve, indicating that in a nerve anastomosis, an end-to-side implantation is perfectly satisfactory. This confirms our clinical experience. We have for years practiced this method of anastomosis in faciohypoglossal anastomosis.

The test described by one of us (Malone) for determining that nerve fibers have grown across a point of suture has proved a valuable aid in determining at an early date whether or not a nerve is regenerating.

The study of cross-sections of nerves as well as the results following the method of auto-autotransplant described in this paper throw doubt on, and we believe disprove, the contention that peripheral nerves have an internal topography, as maintained by Stoffel.

Though absolute alcohol may inhibit to some extent the formation of neuromas, it does not absolutely prevent them.

The most important factor in a successful nerve anastomosis is the accurate approximation of the nerve ends so that there is no tissue between them which may interfere with the regeneration of the fibers. Every effort, of course, should always be made to bring them together in their original anatomic relation; but, owing to the presence of internal plexuses in nerves, it is not so essential as has been supposed heretofore. Whenever a nerve regenerates, whorls are formed at the regenerating end, consequently the central end of a fiber does not necessarily connect with its corresponding peripheral end.

The method of auto-autotransplant described in the foregoing pages for bridging defects too long to permit of an end-to-end anastomosis is to be preferred to cable transplants because no normal nerve has to be injured and the operation can be carried on in one field.

The method of choice for bringing large defects, whenever possible, is the double implantation method of anastomosis. Its advantage over the auto-autotransplant lies in the fact that *some* cylinders have only one suture line to grow through, while in the auto-autotransplant they all have to go through two suture lines. [E. H. R.]

Autogenous versus Heterogeneous Bone Pegs.

Tarnowsky (*Surg., Gyn. and Obstet.*, Sept., 1922) writes as follows:

The clinical behavior of a beef-bone graft depends entirely on the relative activities of the osteoblasts and osteoclasts:

1. With proliferation of new cells from the living proximal and distal ends of the fractured bone keeping pace with absorption of dead cells from the graft, complete disappearance of the latter coincides with complete union of the fracture or filling in of the defect.

2. With hyperactive new cell formation and sluggish absorption, the graft constitutes a sequestrum which either eburnates and remains in a state of quiescence or acts as an irritant foreign body with sinus formation and periodic extrusion of dead bone spicules.

3. With hyperactive bone absorption and sluggish new-bone formation the graft disappears by combined extrusion and absorption before union or filling in of the defect has taken place.

The factors which enable us to attain the ideal, *i.e.*, an even balance of absorption and proliferation, are: First, the thorough trimming off of dead bone proximally and distally with curette and chisel; second, firm approximation of the bone graft to living bone; and third, absolute asepsis.

Finally, it has seemed to us that the term infection, as applied to bone surgery, is too loosely used, and that in many cases of so-called septic results we are merely dealing with type three, *i.e.*, rapid necrosis of the graft without infection—using the latter term in its perfect sense. In other words, subacute osteomyelitis, with no anti-body reaction on the part of the individual, should not be classed as an infection but as ordinary tissue necrosis. [E. H. R.]

Carbon Tetrachloride in Helminthiasis.

McVail (*Ind. Med. Gaz.*, Aug., 1922) reports his experience with carbon tetrachloride as an anthelmintic. He finds that children stand the drug well, and he has given a child of 12 a drachm on two successive days without ill effect. Seventy minims on two successive days is the largest dose he has given an adult. A dose of 60 minims in an old man was followed by irregular pulse and slurring speech. The drug has marked soporific properties. It does not appear to aggravate albuminuria and may be given in cases of kala-agar complicated with ankylostomiasis during the remissions of temperature, while kala-agar cases stand chenopodium badly.

The writer finds that carbon tetrachloride is of little value against ascaris, trichiuris and hymenolepis. Against oxyuris it appears to be almost specific. Very recently reports from South America state that several cases of acute yellow atrophy of the liver have followed the use of this drug. [L. D. C.]

Cancer in the Cervical Stump: Metastasis in the Vermiform Appendix.

Frank (*Surg., Gyn. and Obstet.*, Sept., 1922) writes as follows:

The case reported is one of stump cancer, noticed within five months after supravaginal hysterectomy for fibroids of the uterus. It is, therefore, fair to presume that the carcinoma was overlooked at the time of the operation.

Complete hysterectomy for fibroids of the uterus is not recommended as a routine measure, because of its increased mortality over supravaginal amputation.

Increased care in examining the cervix, *before* all operations for uterine conditions are undertaken, is enjoined, and it is suggested that the patients after operation be warned to note and report bleeding or abnormal discharge.

A metastasis in the non-adherent appendix is reported as a unique site of secondary deposit from cervical cancer. [E. H. R.]

Vomiting and Distention after Laparotomy Lessened by the Substitution of Rubber Envelope Pads for Gauze.

Bissell (*Surg., Gyn. and Obstet.*, Sept., 1922), after a study of some 300-odd cases with controls, concludes that nausea, vomiting and distention are markedly lessened by the use of rubber walling-off pads in the place of gauze, principally because of the lessened amount of trauma to the intestines. [E. H. R.]

Bovine Tuberculosis in India.

Liston and **Soparkar** (*Ind. Med. Gaz.*, June, 1922) report on an investigation into the nature and origin of an outbreak of tuberculosis among animals in the Bombay Zoölogical Gardens. They find that the disease, which spread to some 30 animals (deer, llamas, antelopes, etc.), was bovine in nature in every case. It probably originated from the llamas which were imported from Germany, one of which died of tuberculosis in the gardens. Tuberculosis among cattle is rare in India. [L. D. C.]

THE FUNCTION OF THE GALL-BLADDER IN BILIARY FLOW.

JACOBSON, C., and GYDESEN, C. (*Archives of Surgery*, Sept., 1922).—These authors write as follows:

Bile as a secretory product of the liver is produced probably through hormone stimulation associated with the production of acid chyme in the stomach. The height of biliary flow is coincident with the passage of the acid chyme into the duodenum.

There is a marked similarity between the curve of bile production and that of pancreatic secretion.

The smaller continuous secretion of the liver is stored in the gall-bladder, which acts as a reservoir, until evacuated by the demands of digestion. The storage capacity of the gall-bladder is augmented by its remarkable concentrating power.

The S-shaped configuration of the neck and ampulla of the gall-bladder prevents overdistention of the gall-bladder. When overdistended it prevents the exit of bile. By altering the peculiar configuration of the portion of the gall-bladder and cystic duct, inflammatory conditions may readily produce a nonfunctioning gall-bladder.

The sphincter of Oddi, a definite muscle entity at the duodenal end of the common duct, sustains an absolute pressure of about 150 mm. of water. The gall-bladder undoubtedly equalizes the great fluctuations in this pressure due to movements of the abdominal muscles and contiguous organs. Cholecystectomy tends to produce a lowered intraductal pressure and a relaxed tone of the sphincter of Oddi. The sphincter is probably under reflex nervous control associated with the passage of acid chyme into the duodenum and with intrinsic movements of the duodenum itself.

Magnesium sulphate does produce a complete, local relaxation of the duodenal wall and the papillary sphincter, with reduction of the intraductal pressure. Relaxation is transient and is usually accompanied by a flow of bile from the orifice.

There was no evidence that concentrated magnesium sulphate produced any contraction of the gall-bladder or any specific change in the gall-bladder pressure. The augmented biliary flow from its application is probably due to the evacuation of the bile from the bile ducts as a result of sphincter relaxation and also to the stimulating effect of the salt upon the liver secretion.

Flow of bile from the gall-bladder has been produced in certain cases by injection of large amounts of 0.4 per cent. hydrochloric acid into the duodenum. This probably is the mechanism of its discharge at the beginning of digestion.

The production of mucus and the concentrating power of the gall-bladder are suggestive of some purposeful differentiation of that structure, although its removal has been, in human beings, without any definite, clinically demonstrable deleterious effects.

[E. H. R.]

LYMPHO-CYSTIC URETHRAL LESION: AN EVIDENCE OF SYSTEMIC TUBERCULOSIS.

PELOUZE, P. S. (*Journal of Urology*, March, 1922), writes:

Of 16 cases presenting these cysts at autopsy, found by Dr. Randall, all but two showed massive active tuberculosis. In these cases the principal lesions were lungs 94%, kidneys 12%, bladder 12%, intestines 37%, pleura 25%, spleen 25%, liver 12%. 83 1-3% in whom careful clinical studies were possible showed strong evidences of an active tuberculous lesion. In these the lesions were lungs 82%, kidney 17%, bladder 14%, epididymis 6½%, prostate 8%; in 32% there were tubercle bacilli in the urine.

The urethral lesions are important from a diagnostic standpoint alone as they never ulcerate nor extend to the prostate. They remain as long as the causal focus is active and spontaneously disappear, providing the patient's general health improves. Burning in some portion of the urethra during micturition is the most common subjective symptom.

These occur in women but are easily confused with the mucosal tabs so common at the female vesical neck.

Many patients have symptoms of prostatitis only and are suspected because treatment fails to improve or makes worse the prostatic condition.

The lesions are only occasionally true tuberculosis but are apparently due to the action of some tuberculotoxin. They are never primary urogenital tuberculosis.

From the clinical and autopsy data presented it is felt that the association of these lesions with tuberculosis is too frequent to be coincidental and that every patient in whom they exist has a large or small tuberculous focus that is active.

The paper is concluded by brief histories of the seventy-five cases.

[B. D. W.]

PNEUMOPYELOGRAPHY: A PRELIMINARY REPORT ON ITS ADVANTAGES AND TECHNIQUE.

THOMPSON (*Jour. of Urology*, April, 1922) feels that there is less reaction to injection of oxygen than when opaque solutions are used. He gives a case,—pyelograms and postoperative results. The conclusions arrived at are:

I. Pneumopyelography is a simple, though uncommon, procedure and deserves a greater popularity.

II. Its procedure is attended by apparently no reaction and causes the patient less discomfort than the injection of an opaque solution.

III. In certain cases it is a greater aid in roentgenographic diagnosis than the opaque solutions.

[B. D. W.]

DISSOLUTION OF CALCULI IN THE RENAL PELVIS AND URETER.

BRYAN and CALDWELL (*Jour. of Urology*, April, 1922) draw the following conclusions:

I. The means for determining the character of stones can be estimated only by the density of the shadow by x-ray, and by urinalysis, at which time we hope to catch crystals from the stone which may be most misleading.

II. The only stones amenable to dissolution are the phosphatic, which constitute only 9 per cent. of all stones, and the calcium carbonate (very rare), which constitute 4 per cent. of all stones.

III. Stone formation is always attended with the presence of pus. This condition is aggravated by topical applications.

IV. Many stones may be assisted in their expulsion by ureteral dilatation and lubrication.

V. Operation in the upper tract, pyelotomy in the lower tract, by intramuscular gridiron incision, is attended with such happy results that experimentation with solvents would seem impracticable.

VI. The mucosa of the dog, lining the pelvis and the ureter, can stand 0.5 per cent. hydrochloric acid U. S. P.; stronger than this shows a round-cell infiltration and destruction which in course of time is not followed by repair.

[B. D. W.]

SURGICAL INFECTIONS OF THE KIDNEY.

BAKER (*Jour. of Urology*, April, 1922) speaks of the embryology of the portions making up the kidney.

There is difficulty in differentiation because the majority of all kidney infections occur in the female and on the right side. The chief obstacles are:

I. To differentiate it from similar explosions which may occur either in the appendix, gall-bladder, stomach or pancreas.

II. To distinguish it from the more acute pyelitis or pyelonephritis, which may also have a very stormy beginning.

In a series of 75 cases of pyelitis and ureteral stricture, 14 per cent. had been operated upon, during an acute exacerbation, for acute appendicitis. Some of these had operations for chronic appendicitis. All told, 54 per cent. had either been operated upon or had had operation of the abdominal cavity advised as the necessary remedial measure.

Careful study seems necessary of the upper urinary tract before making your abdominal incision.

[B. D. W.]

The Toxicity of Potassium Chloride in Experimental Nephritis.

Underhill and Ferguson (*Jour. of Urology*, April, 1922) make the following assertions:

Potassium chloride intravenously administered to rabbits with tartrate nephritis is much more toxic than sodium chloride introduced under similar experimental conditions.

Potassium chloride intravenously injected is no more toxic to rabbits with tartrate nephritis than it is to normal animals.

The induction of a nephritic condition in rabbits by tartrate, therefore, does not render the animal more susceptible to potassium chloride introduced directly into the blood stream.

[B. D. W.]

Unilateral Fused Kidneys.

Hyman (*Jour. of Urology*, April, 1922) declares that this condition is most rare. There is rarely a preoperative diagnosis. One unilateral fused kidney was found at autopsy in over 8000 cases, whereas the horse-shoe kidney is encountered once in 1000 cases. Israel reported two fused and five horse-shoe kidneys in 800 operations.

The two cases reported were diagnosed preoperatively by careful study with opaque catheters in ureters, and pyelograms made. In one a stone in lower portion of fused kidney was removed, with excellent recovery; in the other it was felt that pain was due to pressure and operation would be of no benefit.

[B. D. W.]

Saligenin as a Local Anesthetic for Cystoscopy in Men.

Hirschfelder, Wethall and Thomas (*Jour. of Urology*, April, 1922) present these results:

I. In ten cases in which 4 per cent. solutions of saligenin were instilled into the male urethra anesthesia satisfactory for cystoscopy was obtained, as was likewise the case in 20 cases in which 8 per cent. solutions were used.

II. No unpleasant results were experienced in these cases.

III. Saligenin is a local anesthetic of very low toxicity, which can be used satisfactorily for local anesthesia for cystoscopy in the male.

[B. D. W.]

Presentation of Test-Tube Holder for Collection of Ureteral Specimens.

Levy (*Jour. of Urology*, April, 1922) offers the suggestion of using a canvas strap a couple of inches wide, with loops, stretched between the stirrups for holding test-tubes, into which the ureter catheter may be placed while collecting specimens.

[B. D. W.]

A New Method of Perineal Prostatectomy Which Insures More Perfect Functional Results.

Geraghty (*Jour. of Urology*, May, 1922) calls attention to a new procedure in perineal prostatectomies, by which the membranous urethra is avoided and the external sphincter left entirely alone. Thus the occasional functional imperfections obtained by the methods employed now, like lack of control, can be avoided.

A special retractor, devised by Dr. Henry Freiberg, is passed the entire length of the urethra and brings the prostate forward toward the perineum. The prostate is exposed by usual methods and then a curved incision is made through the posterior layer of the prostate, the point of the curve being at the apex of the prostate. The line of cleavage between the capsule and the adenomatous masses is affected by the blunt dissector, and the subsequent dissection, carried out with the finger as is done in the suprapubic enucleation.

Much care in packing must be exercised, especially with regard to the overhanging flap of the bladder wall.

By this method the membranous urethra is not exposed nor at any time in the field of operation. Its intrinsic and extrinsic musculature, as well as the nerve supply, is neither disturbed nor injured.

[B. D. W.]

Sphincterotomy per Urethram.

Geraghty (*Jour. of Urology*, May, 1922) says that contracture of the vesical orifice as a fairly frequent cause of urinary obstruction is now well recognized. It is a fibrosis of varying depth, involving the vesical orifice, particularly in its posterior portion; diminishing sphincteric relaxation, and narrowing the vesical outlet during the act of urination.

When these cases have been opened suprapubically and examined it has been found that simple division of the internal sphincter gave immediate relaxation of the orifice, with complete and permanent relief of obstruction.

The modified Boltini operation of Chetwood and the Young "punch," recently suggested by Caulk, whereby a satisfactory end-result is accomplished, are not infrequently followed by prolonged sloughing and serious hemorrhage.

Dr. Geraghty suggests using a No. 28 F. endoscopic tube, engaging the vesical orifice in the fenestra, and then introducing a wedge-shaped concave knife which accurately fits, thus dividing the fibrotic ring. Urine is usually only blood-tinged, so a retention catheter is not required.

[B. D. W.]

The Structural Basis for Congenital Valve Formation in the Posterior Urethra.

Watson (*Jour. of Urology*, May, 1922) declares that from the material and evidence at hand it can be stated that the so-called valves or congenital strictures of the prostatic urethra may have their origin as early as the fourteenth week of fetal life, at which time there were present in the specimens studied no associated secondary sequelae such as the dilated posterior urethra, dilated trabeculated bladder with hydroureters and hydronephrosis, as is usually found in the latter pictures of this condition. The valve formation is due to the growth and attachment of the tip of the colliculus to the roof of the urethra, and occurs at the time of marked epithelial activity of this and associated parts, namely, the invagination of the verul mucosa to form the first observed tubules of the verumontanum; and of passing interest it may be stated that it occurs also at the time the diverticula of the seminal vesicles are first noted. The view of Wilckens, that these folds are remnants of the cloacal membrane which are left when the cloaca divides into the sinus urogenitalis, perineum and rectum, cannot be sustained, for at the time this anomaly occurs the above structures are all clearly defined. Also Posner's contention that these folds are the result of faulty union of the pars prostatica and pars membranosa of the urethra seems hardly to be supported. Lowsley's statement seems more nearly correct: that they may be anomalies of the Wolffian and Müllerian ducts; but even this is not entirely adequate. The study of the reported specimens would seem to indicate that these obstructing valves have their origin in the anomalous attachment of the lower portion of the colliculus seminalis and inferior striae to the roof of the urethra.

[B. D. W.]

Bone Metastasis from Primary Carcinoma of the Urinary Bladder.

Wells, H. Gideon (*Journal of Urology*, May, 1922) calls attention to the fact that carcinoma of the urinary bladder, contrary to the prevailing view, not infrequently gives rise to bone metastasis, which may be extensive, even when the bladder tumor is small.

Attention is called to various articles on this subject, showing the lack of bone metastasis or the failure to mention it.

The paper is concluded with a case description in detail, where the complaint was due to large tumor of sternum with no bladder symptoms. A man, sixty-eight, with a typical papillomatous tumor of the urinary bladder which had caused no symptoms of which he complained, developed an enormous secondary growth in the sternum which was completely replaced by tumor tissue. This growth was so large, weighing about the same as a normal human liver, and so symmetrically disposed as to the sternum, that at the autopsy it was believed to be a primary sarcoma of the sternum, the bladder tumor being thought to be merely a coincidental matter; microscopic study, however, showed the tumor of the bone to be derived from the papillary carcinoma of the bladder, as also were the metastatic growths in the ilium, in four ribs, the lung, the kidney and the liver. We can find no record of any other case of bladder carcinoma with a comparable amount of bone metastasis.

[B. D. W.]

A Procedure for the Cure of Prostatic Abscess.

Barringer, B. S. (*Journal of Urology*, May, 1922) calls attention to fifteen cases of prostatic abscess helped by introducing 1/5 of 1 per cent. novocain and adrenalin with a lumbar puncture needle through the perineum. The anaesthetic is injected ahead of the needle; the needle enters between the urethra and rectum, and then with the index finger in rectum the needle can be plunged into lobes of prostate and pus aspirated.

These 15 cases have been saved general anaesthesia, perineal section damage to the prostatic urethra, and long convalescence by aspirating from the prostate by the needle method; up to date no untoward results have followed this method, and no cases have had to be operated upon subsequent to the aspiration.

Subsequent experience has indicated that the method should be restricted to gonococcus infections; abscesses of the prostate caused by streptococcus, staphylococcus or colon bacilli do not do well after aspiration. The method should not be used when the abscess has broken through the capsule of the prostate and is pointing in the ischiorectal fossa, or has extended toward the seminal vesicles. Here operation is indicated.

[B. D. W.]

Physiological and Pharmacological Studies of the Prostate Gland. Response of Prostatic Muscle to Drugs.

Macht, D. I. (*Journal of Urology*, May, 1922) reports:

1. The effects of various drugs were studied on strips of surviving excised prostate gland of different animals.
2. The preparations responded promptly with contraction to barium chloride and with relaxation to papaverin hydrochloride, thus indicating the presence of muscle tissue.
3. The preparations responded distinctly to treatment with epinephrin and ergotoxin, but failed to respond (with the exception of the rabbit's prostate) to treatment with pilocarpin, physostigmin, muscarin, and atropin.
4. These observations speak in favor of a true sympathetic innervation of the prostate gland.

[B. D. W.]

Further Notes on Diseases of the Umbilicus.

Cullen (*Surg., Gyn. and Obstet.*, Sept., 1922) contributes one of his characteristically thorough, complete, and beautifully illustrated articles. He describes many bizarre conditions found at the umbilicus, all with most excellent photographs and drawings. Among these, he describes cases of tetanus in the new-born due to careless treatment of the umbilical stump, various forms of granuloma of the umbilicus, polyps, Meckel's diverticulum found in the umbilicus, cysts, adeno-myoma, naevus, moles, papilloma, various forms of carcinoma, and various forms of hernia. The article is most interesting and instructive.

[E. H. R.]

Combined Transpleural and Transperitoneal Resection of the Thoracic Esophagus and the Cardia for Carcinoma.

Hedblom (*Surg., Gyn. and Obstet.*, Sept., 1922) reports a most interesting case in which the above operation was done for carcinoma involving the esophagus and upper portion of the stomach. The operation followed a preliminary resection of the fifth to eleventh ribs and was performed under local anesthesia and gas oxygen. The left pleural cavity and the left peritoneal cavity were opened widely, the diaphragm was split to the hiatus, the esophageal stump was sutured to the skin edges in the middle axillary line, and the gastric stump was brought to the surface near this line. The patient recovered from the operation and is able to take food by mouth through a tube connecting the two stomata. The case is reported in detail and illustrated with photographs.

[E. H. R.]

Infection in the Mediastinum in Fulminating Cases of Empyema.

Dunham (*Surg., Gyn. and Obstet.*, Sept., 1922) presents a very interesting article based on the large number of cases seen during the World War, and as a result of his study, together with the study of the pathological material taken at autopsy, he concludes that, in the fulminating type of empyema, infection of the mediastinum is one of the most fatal complications. This infection is most likely to occur before the defensive reactions of the body are adequate to ward it off, and this type of infection is the immediate cause of death in these cases.

[E. H. R.]

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THE ANNUAL MEETING OF THE NEW ENGLAND SURGICAL SOCIETY.

This meeting was held in Burlington, Vermont, September 22 and 23. About sixty per cent. of the members and several invited guests were present. The weather was ideal and the social features provided by the Vermont members added very much to the enjoyment of those in attendance. A few of the members who traveled by automobile arranged for side trips, in order to enjoy the beauties of the Green Mountains and Lake Champlain. The scientific program was varied. The importance and the manner of presentation of the subjects held the attention of the audience throughout the sessions.

Five papers relating to urological subjects were presented, covering the advances in treating complications of prostate gland surgery, and the importance of pyelography, both in dealing with abnormalities of the ureter and kidney, and also in elucidating obscure conditions met by the general surgeon. Two papers devoted to the surgery of childhood under the titles of "Hare Lip" and "Tuberculous Adenitis" brought out the technic of appropriate operations, and in the latter subject the rules for operative or other treatment, as the cases might require. Under gynecology, the advantage of the operation that makes use of the combined method of shortening of the round ligaments by means of fixation in the upper anterior part of body of the uterus, and the attachment of the bladder high up on this organ was advocated in suitable cases, and the problems presented by cancer of the cervix were presented. In this latter condition the records of the Massachusetts General Hospital were used to demonstrate the frequency of failure to recognize cancer at the time of a supravaginal hysterectomy, as well as the danger of the development at any later period in the cervical stump. Under anesthesia, the advantage of local over general anesthesia in strangulated hernia was endorsed, although statistics, in some instances, might lead to incorrect conclusions because of failure to study other important factors. A paper on the results of anesthesia in a service, brought out the advantages of careful administration and oversight, and the resulting benefits to the patients.

There were two papers dealing with diverticulum of the oesophagus. The advantages of the two-stage operation and improved technic were explained, and it was shown that under modern methods, as applied to suitable cases, the prospect of good results is much better than secured in former times. The papers on "Myeloma of the Vertebrae," and "Myoma of the Stomach" presented the pathology of these conditions, in addition to the report of interesting cases. The paper by Dr. Eugene Pool of New York, on "Injuries to the Spleen," brought out the difficulties of diagnosis, and the dangers which are increased by delayed treatment in these cases. The remaining papers under the following titles, "Myositis Ossificans," "Enteroliths," "Arteriomesenteric Obstruction of the Duodenum," "Postoperative Intra-abdominal Adhesions," "Surgery in Diabetes," and "Postoperative Swelling of the Upper Extremity Following Operations on the Breast and Axilla" all brought out animated discussions.

The attempt of the reader of the paper entitled "Hernia from the Employer's Standpoint," to get the Society to take a position on the status of hernia in industrial insurance was not endorsed at this meeting, but a committee was appointed to consider the subject and make a report.

These brief references should lead to the careful perusal of the papers as they will appear in this Journal from time to time.

The only criticism that could be made of the meeting consists in reference to the wealth of material presented, for although the President exhibited energy and control, it was well-nigh impossible to keep strictly to the time specified in the program or to give sufficient time to the discussions following the reading of papers.

The dinner, which was served on the boat on the return trip from Plattsburg, was most enjoyable for its social and gastronomic features. One especially delightful incident was the resuscitation of Dr. Francis S. Watson, who had officially died, according to the records of the Secretary. Dr. Watson evidently enjoyed his return to life, and entertained the Society and guests by anecdotes and reports of his travels abroad. His warning of the great peril to civilization existing in the unsettled and complicated affairs of Europe and Asia was impressive.

Considerable interest was shown in the proposal to have a joint meeting or series of meetings of the several New England medical societies for the purpose of uniting the profession of New England in all questions relating to professional policies and the dissemination of information relating to progress in medicine. Definite action, however, may be taken only after further consideration and a study of a similar plan now being agitated in the American Medical Association.

The officers elected for the ensuing year are as follows:

President—Dr. John F. Thompson, of Portland.

Vice-president—Dr. Lyman Allen, of Burlington.

Secretary—Dr. Philemon E. Truesdale, of Fall River.

Treasurer—Dr. Peer P. Johnson, of Beverly.

The President's address will be published in a later issue of the JOURNAL.

Dr. Thomas Kittredge of Salem, Mass., and Dr. William F. Hazelton of Bellows Falls, Vt., were elected as Honorary Members and the following-named surgeons to active membership:

Dr. Stephen Rushmore, Boston.
Dr. James Walker Jameson, Concord, N. H.
Dr. Samuel Clark Harvey, New Haven, Conn.
Dr. Alvan Davidson, St. Albans, Vt.
Dr. Robert Carlyle Cochrane, Boston.

GROUP INSURANCE.

IT will be remembered that the Council of the Massachusetts Medical Society, after careful study of the indemnity insurance offered to physicians, recommended group insurance to its members. By this plan members of the Society may take out insurance at a rate which is the same to each policy holder. About eleven hundred members have adopted this form of insurance.

Another company than the one recommended by the Society is offering insurance on a graded plan according to the nature of the work done by physicians, ranging in price from eighteen to seventy-five dollars for a five to fifteen thousand dollar policy.

So far as our members choose different forms of insurance, the plan advocated by the Council is weakened. The policy of the company recommended by the Council (The United States Fidelity and Casualty Co.) is to contest every suit brought against its policy holders, so as to discourage the custom of some attorneys of attempting to influence physicians and insurance companies to settle doubtful or unjust claims. It is less expensive, in many instances, to compromise rather than defend a suit, but the adoption of this policy of compromise encourages the instigation of unworthy suits. Since the expense of defense is oftentimes greater than that of compromise, an insurance company cannot carry through the policy of general defense unless there is a large number of policy holders, and it is estimated that the minimum number in a group should not be less than two thousand. It is confidently expected that if over two thousand of our members unite in this group and pursue the plan of contesting every suit, the number of suits will diminish, and after a time the company will be able to furnish the insurance at a figure of eighteen dollars or less.

The question really is whether we will stand together and adopt a plan which will be for the greater benefit of the profession, or whether a sufficient number may be induced to take on classified insurance in one class a little lower than that in the group plan.

Another company has attacked the group plan, and made the point that the testimony of one physician in a group in favor of another in the same group would react unfavorably. Eminent legal opinion has been submitted to the effect that evidence of membership in a group would not be admitted in a trial. This latter company cannot do business in this state except by correspondence, as shown by the following letter:

State House, Boston, August 7, 1922.

O'Neil & Parker, Managers,
United States Fidelity and Guaranty Company,
43 Kilby Street, Boston, Mass.
Attention Mr. John E. O'Neil.

Gentlemen:—

The company about which you inquire is not authorized to do business in this Commonwealth. Its resident policyholders would not be able to bring suit against the company in our courts.

The situation is the same in regard to this company as it is with any unadmitted company, whether doing fire, accident, compensation, liability or any other line of insurance.

Very truly yours,
ARTHUR E. LINNELL,
First Deputy Commissioner.

NEWS ITEMS.

WEEK'S DEATH RATE IN BOSTON.—During the week ending September 23, 1922, the number of deaths reported was 197, against 191 last year, with a rate of 13.41. There were 38 deaths under one year of age, against 26 last year.

The number of cases of principal reportable diseases were: Diphtheria, 42; scarlet fever, 16; measles, 15; whooping-cough, 60; typhoid fever, 12; tuberculosis, 28. Included in the above were the following cases of non-residents: Diphtheria, 7; scarlet fever, 2; typhoid fever, 3; tuberculosis, 3.

Total deaths from these diseases were: Diphtheria, 2; whooping-cough, 4; typhoid fever, 2; tuberculosis, 9. Included in the above were the following cases of non-residents: Diphthetia, 2; typhoid fever, 1.

Removal.—Dr. Theodore L. Story has moved from his former office on Commonwealth Avenue to 141 Sutherland Road, Brighton.

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Miscellany.

LEGISLATIVE MATTERS.

MASSACHUSETTS CONTESTS THE FEDERAL MATERNITY AND INFANCY ACT.

The Commonwealth of Massachusetts has, by its Attorney General, petitioned the U. S. Supreme Court for leave to file a bill of complaint in a suit between the State and certain government officials, in order to enjoin them from enforcing the act for the promotion of the welfare and hygiene of maternity and infancy, known as the Sheppard-Towner Act. The defendants named are Andrew W. Mellon, Secretary of the Treasury; Grace Abbott, Chief of the Children's Bureau of the Department of Labor; Charles E. Sawyer, Surgeon General of the Public Health Service; John J. Tigert, Commissioner of Education. Incidentally, Charles E. Sawyer is not the Surgeon General of the Public Health Service and the inclusion of his name as such is an error.

The original bill of complaint, for which permission is asked to file, sets forth the following items:

(1) That three of the defendants constitute the Federal Board of Maternity and Infant Hygiene. No reason is given for joining the Secretary of the Treasury.

(2) That the suit is instituted pursuant to an order of the State Legislature for the purpose of restraining defendants from carrying out the Act.

(3) That Congress unlawfully assumed a power not delegated to it, but reserved to the States by the Tenth Amendment to the Constitution, when it passed this Act. The provisions of the law are then set out in detail. The argument is advanced that appropriations made under the act are for local and not national purposes, that the burden of paying for it falls unequally on the States, and that the sovereign power of the plaintiff is usurped. Action already taken under the law by the Children's Bureau is also set forth.

The petition, which was filed on September 8, 1922, will be considered at the October term of the U. S. Supreme Court, which begins on October 2, 1922.—*Bulletin of the National Health Council.*

RESOLUTIONS.

The National Health Council reports that a resolution has been introduced in the House by Representative Ryan requesting the President to remove Brigadier General C. E. Sawyer, as chief of the coördination section of the Veterans' Bureau, and to fill the position with someone of professional standing, capable of discharging the government's obligation to disabled soldiers. In its resolution it is stated that General Sawyer has claimed that his duty as physician to the President interferes with the responsibilities of this position.

Senator King has introduced a resolution asking for the appointment of a committee to investigate the U. S. Veterans Bureau, with especial reference to the following matters:

(a) Alleged lassitude and delay in the administration of the Veterans' Bureau and in the making of adjustments for compensation and payments.

(b) Rules and regulations promulgated by the Bureau and its organization are so complicated and over-elaborated as to cause intolerable indirection in handling cases.

(c) Great and needless delay in the construction of hospitals and in providing proper hospitalization for relief of disabled war veterans.

(d) Large proportion of appropriations made by Congress is being consumed in overhead expenses instead of being used for the relief of disabled soldiers.

(e) Popular feeling exists all over the country that acts of Congress in behalf of the veterans are not being properly and equitably administered.

The President has recommended the reappointment of Major General M. W. Ireland.

FEATURES OF THE TARIFF BILL.

The report of the conference fixing, among other articles, a 60 per cent. rate on medicinals with a specific duty of 7 cents per pound, if passed, is expected to kill the chemical industry in this country. A duty of 45 per cent. on surgical instruments has been agreed to by the conferees.

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REPORT OF THE WORCESTER CITY HOSPITAL.

For the Year Ending Nov. 30, 1921.

The arrangement of the statistics showing the work done in this institution is admirable, for the facts are presented in available form for comparison with other hospitals of this class.

A summary of this year's work is as follows:

Six thousand, three hundred and twenty-eight (6,328) bed patients were given 104,498 days' treatment at an expense of $411,107.47.

Thirty-one thousand, three hundred and forty-two (31,432) treatments were given in the out-patient department at an expense of $22,795.49, or $.727 per treatment.

One thousand and sixty-five (1,065) were treated in the accident room at an expense of $4,187.42, or $3.93 per patient.

There was a total of 104,498 days' treatment in the hospital proper, 31,342 treatments in the out-patient department and 1,065 treatments in the accident room at a total expenditure of $438,090.38.

The average expenditure for each bed occupied continuously throughout the year was $1,435.98, as against $1,506.45 in 1920. This does not include the expenses of the out-patient department, or of the accident room, nor does it include interest on investment or depreciation of plant.

RECEIPTS.

Balance on hand November 30, 1920....	$7,433.09
Appropriation from tax levy...........	260,000.75
Income from patients and sales.........	156,535.22
Income from funds......................	16,970.90
	$440,939.96

EXPENDITURES.

General fund..............	$432,669.77	
Special funds.............	3,822.15	436,491.92
General fund balance......	501.31	
Special fund balance......	3,946.73	
		$4,448.04

PER CAPITA COST.

The average cost of caring for patients has been $27.54 per week, as against $28.89 in 1920.

STATISTICS.

There were admitted to the surgical wards, 2,051 patients, compared with 1,758 last year. The daily average cost of surgical patients was $4.02, compared with $4.13 last year.

There were 1,355 patients admitted to the medical wards, compared with 1,386 in 1920. The daily cost of medical patients was $4.12, compared with $4.09 in 1920.

The number of children admitted was 642, compared with 707 in 1920. The daily average cost of children was $4.02, as against $4.43 in 1920.

There were 1,065 minor accidents treated at a total expense of $4,187.42, or $3.93 per treatment, compared with $4.04 last year.

The number of patients admitted to the maternity service was 655 compared with 583 last year. There were 630 births, as against 539 in 1920. The daily average cost of this department, including infants as patients, was $2.95, compared with $3.35 in 1920.

The average number of beds occupied during the year was 286.29, while the average last year was 255.5.

The average duration of residence in the hospital of free and paying patients was 16.50, compared with 16.31 last year. The number of days' treatment was 104,498, as against 93,257 the year previous.

The largest number in the hospital in any one day was 344, compared with 306 last year; and the smallest number was 229, compared with 220 in 1920.

OUT-PATIENT DEPARTMENT.

There were admitted to the department 6,962 new patients, compared with 4,431 in 1920. They were divided among the different clinics as follows: Medical, 1,435; surgical, 1,529; eye, 687; ear, nose and throat, 1,273; dermatological, 313; gynecological, 166; neurological, 27; orthopedic, 458; genito-urinary, 453; lung, 125; massage, 75; electro-therapeutic, 71; dental, 174; prenatal, 151.

Last year there were 4,431 patients admitted to all clinics, an increase this year of 2,531. The total number of visits this year was 31,342, as compared with 19,636, an increase of 11,706.

The visits among the different divisions were divided as follows: Medical, 3,908; surgical, 9,791; eye, 2,033; ear, nose and throat, 3,093; dermatological, 720; gynecological, 709; neurological, 72; orthopedic, 1,539; genito-urinary, 6,379; lung, 441; massage, 540; electro-therapeutic, 1,387; dental, 355; prenatal, 356.

The daily average treated was 103.1, as compared with 65.02 in 1920.

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THE TUBERCULOSIS INSTITUTE.

The Boston Tuberculosis Association will hold the second Institute for Physicians on Thursday and Friday of this week. The program of the first day and the morning of the second day will be given in the amphitheater of the Massachusetts General Hospital. The afternoon of the second day will be spent at the North Reading State Sanatorium. A complimentary luncheon will be served to those in attendance, and transportation to North Reading has been arranged for those who have applied to Dr. Cleaveland Floyd. These meetings are of the greatest interest to all concerned in the problems of tuberculosis. The success of last year's Institute warrants expectation of a successful series of meetings.

The program is as follows:

BOSTON TUBERCULOSIS ASSOCIATION.

Institute for Physicians.

Thursday Morning, October 5, 1922—Dr. Cleaveland Floyd Presiding.

10-11—"Problems in Tuberculosis from the General Practitioner's Point of View," by Dr. Allen K. Krause, Professor of Medicine, Johns Hopkins Hospital, Baltimore, Md.

11-11.30—"Tuberculosis from the Standpoint of the Pathologist," by Dr. George Magrath, Medical Examiner, Suffolk County.

11.30-12—"Laboratory Aids in the Diagnosis of Tuberculosis," by Dr. Cleaveland Floyd, Director, Out-Patient Clinic, Boston Sanatorium, Boston, Mass.

12-12.30—"Function of Boards of Health in Relation to Tuberculosis," by Dr. Francis X. Mahoney, City Health Commissioner, Boston, Mass.

12.30-1—"Treatment of Tuberculosis in the State Sanatoria" (with lantern slides), by Dr. Sumner Remick, Director, Division of Tuberculosis, Department of Public Health, Boston, Mass.

Luncheon.

Thursday Afternoon, October 5, 1922—Dr. John B. Hawes, 2nd, Presiding.

2-3—"Coördination of Clinical Pathological Findings in Tuberculosis," by Dr. William H. Smith, Visiting Physician, Massachusetts General Hospital, Boston, Mass.; Dr. Oscar Richardson, Pathologist, Massachusetts General Hospital, Boston, Mass.

3-4—"Correlation of Clinical Findings and X-Ray in Cases of Tuberculosis," by Dr. John B. Hawes, 2nd, Director of Clinic of Pulmonary Diseases, Massachusetts General Hospital, and President, Boston Tuberculosis Association; Dr. George W. Holmes, Roentgenologist, Massachusetts General Hospital, Boston, Mass.

Friday Morning, October 6, 1922—Dr. Cleaveland Floyd Presiding.

10-10.45—"Diagnosis of Tuberculosis," by Dr. H. R. M. Landis, Physician-in-Chief, Phipps Institute, Philadelphia, Penn.

10.45-11.15—"Physician and Patient," by Dr. Richard Cabot, Professor of Medicine, Harvard University.

11.15-11.35—"Function of the Preventorium in Relation to Tuberculosis in Children," by Dr. Randall Clifford, Examining Physician, Prendergast Preventorium.

Afternoon session at the North Reading State Sanatorium in coöperation with the State Department of Public Health.

Luncheon at North Reading State Sanatorium, leaving Massachusetts General Hospital at 11.35 by automobile.

Friday Afternoon, October 6, 1922—Dr. Eugene R. Kelley Presiding.

1-1.30—"Symptomatic Treatment of Tuberculosis," by Dr. Edward O. Otis, Professor, Tufts College Medical School, Boston, and President, Massachusetts Tuberculosis League.

1.30-2—Luncheon.

2-5—Clinic conducted by Dr. Sumner Remick, Director, Division of Tuberculosis, Department of Public Health, Boston; Dr. Carl C. McCorison, Superintendent, North Reading State Sanatorium; Dr. Earl C. Willoughby, Assistant Superintendent, North Reading State Sanatorium; Dr. Joseph W. Reddy, Assistant Physician, North Reading State Sanatorium; Dr. P. Challis Bartlett, Medical Examiner and Consultant, the Community Health and Tuberculosis Demonstration, Framingham, Mass.; Dr. John B. Hawes, 2nd, Director of Clinic of Pulmonary Diseases, Massachusetts General Hospital, Boston; Dr. Frank H. Hunt, Resident Medical Officer, Boston Sanatorium, Mattapan; Dr. Bradford Kent, Examiner: Out-Patient Department, Boston Sanatorium; Dr. Frederick T. Lord, Instructor, Harvard Medical School; Dr. Edward O. Otis, Professor, Tufts College Medical School, Boston; Dr. Joseph H. Pratt, Boston.

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AS OTHERS SEE US

A delegation from the Municipal Tuberculosis Sanatorium of Chicago recently visited the Forsyth Dental Infirmary. In making the report, after giving details of the founding and operation of the Forsyth Infirmary, the following language is used:

"We, of Chicago, may be pardoned if we are proud and boastful of our splendid tuberculosis organization and of our general health record. Our investigations and observations during our recent visit convinced us that we have every right to be. In no city of the East, and that of course means no city in the country, have they the efficient, effective plan for the fighting of tuberculosis that we are fortunate enough to have in operation.

"'Our hats are off to Boston,' at the same time warning the 'Hub of the Universe' to 'look to her laurels,' for our coats are off, too, and our sleeves rolled up (metaphorically speaking). We are going to work to get for the little ones of Chicago what the noble-hearted Forsyth men gave to the little ones of Boston, and our plans are already well under way."

It may be that we have overestimated the work of the Boston Tuberculosis and the state organizations. Since the challenge has been published it is in order to send a committee to Chicago and ascertain the relative efficiency of organizations in the Middle West as compared with those in our Eastern cities.

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PHYSICIANS IN THE UNITED KINGDOM.

The *Medical Press and Circular* reports that statistics show that there are nearly forty-six thousand doctors in the United Kingdom, with a population of forty-six million. This makes a proportion of one doctor to a thousand people. There has been a gradual change in this proportion, for in 1881 it was one to fifteen hundred.

Sir Clifford Allbutt, speaking of financial considerations in relation to medicine, says:

The average cost of becoming qualified as a medical practitioner is estimated at £1,500, and this does not take account of what might be earned during this period over and above that expended on maintenance.

Fortunes are not easily made in the medical profession.

"Anyone who enters our profession with the sole object of making a fortune has, of course, mistaken his calling . . . the main reward of the medical life is the knowledge of good work done.''

And the editor of *The Medical Press and Circular* gives this advice to medical students:

> I venture to emphasize the advice I have given on a former occasion as to the importance to the student of good health. The sounder the health, the sharper the wits, the more retentive the memory, and the more congenial the work.
>
> Let, then, the student keep as physically fit as possible: by observing regular hours, by carefully regulating his meals, and not hurrying over them, by not over-smoking, and by taking a due amount of physical exercise.
>
> Every student should have his eyes tested as a matter of routine, and wear suitable lenses if these are considered necessary, for even a small error of refraction may greatly impair the capacity for sustained reading.
>
> Equally important is the need to take care of the teeth. The British have the worst teeth in the world, and the future doctor may do much to remedy this evil. He should be able in his own person to prove to his patients that it is possible to retain a sound set of teeth into advanced age.
>
> Let me also impress upon the student not to get into the habit of looking upon the time he spends at his medical studies as so many years of drudgery which have to be got through before the promised land is reached. Rather should he regard them as the best and happiest years of his life (as, in point of fact they probably will turn out to be), and seek to get all the legitimate enjoyment he can out of them.
>
> The method of work is also all-important. The student may do much to lighten his work by concentrating on the essential. It is better to get up the important things thoroughly than to burden the mind with a mass of detail, most of which will probably soon be forgotten. For this reason I advise the student not to neglect the use of small books.
>
> Trust as far as possible to visual memory in learning such a subject as anatomy.
>
> Don't work when you feel tired, and don't work late into the night.
>
> Never miss a coaching class, or college examination. If you have an opportunity of coaching a willing student on a subject you know better than he, do not neglect it; for the teacher often derives more good from his teaching than his pupils. In this way he tests and consolidates his knowledge.
>
> It is a good plan to write a three hours' examination paper at least once a week, after having read up the questions beforehand. In this way facility in expressing the thoughts accurately in writing will be acquired. Many fail in examinations because they are lacking in this respect.

Medical students in this country could read and apply this advice to advantage.

Obituary.

HORATIO ROBINSON STORER, M.D.

Dr. Horatio R. Storer, a noted figure in gynecology and medical jurisprudence in the Boston of fifty years ago, has died at his home in Newport, Rhode Island, at the advanced age of ninety-two years. Although something of an invalid for many years, the end came on September 18, 1922, after an illness of six months. Dr. Storer was the son of David Humphreys Storer, eminent obstetrician and naturalist of Boston, and Abby Jane Brewer, a descendant of Governor Dudley of the Massachusetts Bay Colony. He was born February 27, 1830, was graduated from Harvard College in 1850, where he was a private pupil of Louis Agassiz and Asa Gray, then turning his attention to medicine he received the degree of M.D. from Harvard in 1853. The following two years were spent in study in Paris, London, and Edinburgh, in the last city serving as private assistant to Sir James Y. Simpson, the introducer of chloroform. In 1855 he established himself in Boston and made a specialty of gynecology, a new department of medical practice, while assisting his father, who lectured at Harvard. In 1865 he was chosen to the chair of obstetrics and medical jurisprudence in the Berkshire Medical Institution at Pittsfield, a position he held nominally for four years, though the college closed its doors officially in 1867. To better fit himself for teaching medical jurisprudence Dr. Storer attended the Harvard Law School, taking the degree of LL.B. in 1868. For several years he delivered in Boston a semi-annual course of lectures upon the surgical diseases of women that was very popular among graduates in medicine from all parts of the country. He was visiting physician to the Boston Lying-in Hospital, to St. Elizabeth's Hospital, and to St. Joseph's Home, visiting surgeon to the New England Hospital for Women and Children, and consulting surgeon to the Carney Hospital.

Dr. Storer was one of the founders and at one time president of the "Boston Gynecological Society," established on lines similar to the "Obstetrical Society of Boston" (1861). He edited: "Obstetric Memoirs and Contributions of Professor (Sir) James Y. Simpson of Edinburgh (with Dr. Sir William O. Priestly of London)" 1855; he was the author of "Criminal Abortion in America," 1859; "Criminal Abortion, Its Nature, Its Evidence and Its Law" (with F. F. Heard); "Why Not?—a Book for Every Woman," 1865; "Is it I?—a Book for Every Man," 1869; "On Nurses and Nursing, with Special Reference to the Management of Sick Women," 1868. He edited the journal of the Boston Gynecological Society from 1869 to 1873 and in 1871 he was president of the Association of American Medical Editors, and by special invitation of the California state board of health in that year delivered a lecture in Sacramento, California, on "Female Hygiene."

In 1872 Dr. Storer's health failed and he went abroad, spending most of the time during the next five years in Italy, where he wrote "Southern Italy as a Health Station for Invalids," 1875. On his return he established his residence in Newport, R. I., where he lived until his death, taking an absorbing interest in civic affairs, founding a natural history society and gathering a remarkable collection of medical medals, begun in 1878, soon after his return from abroad, and presented to the Boston Medical Library in 1900, to be known as the "Storer Memorial Collection of Medical Medals," in memory of David Humphreys Storer, his father, and cared for as curator by his son, Dr. Malcolm Storer of Boston. The collection has been enriched yearly by gifts of the donor and others and is now considered by numismatists the largest of all special collections, both in numbers and in the breadth of the field covered.

On his ninety-first birthday Dr. Storer was presented with a loving cup by citizens of Newport for aid to the public health for nearly fifty years. Fordham (N. Y.) gave him her LL.D. in 1912, and in 1918 he received the gold Liberty Service medal of the National Institute of Social Sciences for his work in aiding control of pestilence among soldiers and sailors of the United States.

Dr. Storer married Emily Alvira Gilmore, who died some years ago. He is survived by three sons and a daughter: John H. Storer, of Waltham; Dr. Malcolm Storer, of Boston; Frank Storer, of Miami, Fla.; and Miss Agnes Storer, of Newport.

Correspondence.

PAUL H. DE KRUIF.

Mr. Editor:

In the BOSTON MEDICAL AND SURGICAL JOURNAL for September 14, page 424, a brief item appears under the title "Exposure of the Proprietary Medicine Industry," relative to Paul H. De Kruif, the author of a series of articles now running in *Hearst's International.* In this item is published a letter signed "American Medical Association," giving what purports to be all the information on file at this office concerning Paul H. De Kruif. The letter, in fact, fails to give a good deal of information that is on file in this office.

Your inquiry, to which the letter referred to was an answer, was referred to Dr. Craig, whose untimely death occurred recently. Dr. Craig was, at the time of the receipt of the letter, on his vacation, and, in his absence, it was answered by his secretary, who, unfortunately, did not go beyond the biographical information in our files relative to medical students.

It is unfortunate that the prefix "Dr." is used before De Kruif's name in the "Doctors and Drug Mongers" series now appearing in *Hearst's International,* because it is bound to lead to a misapprehension. Dr. Paul H. De Kruif is not a graduate in medicine, although, as stated in the previous letter, he attended the University of Michigan Medical School for three sessions. He was, however, graduated by the University of Michigan, and from this same institution also received his doctorate degree in philosophy.

Dr. De Kruif, after graduation, did good work with Novy on anaphylaxis and anaphylotoxin. Later he was appointed associate in the Rockefeller Institute for Medical Research. There, in conjunction with Jacques Loeb and others, he has done important work on bacterial mutations and on the physical properties of bacteria. Among his contributions to scientific literature are:

"Experimental Research on Effect of Intravenous Injection of Gum Salt Solutions"—Ann. of Surg., lxix, 297, March, 1919.

"Dissociation of Microbic Species"—J. A. M. A., lxxvi, 651, March 5, 1921.

"Dissociation of Microbic Species, Coexistence of Individuals of Different Degrees of Virulence in Cultures of Bacillus of Rabbit Septicemia"—J. Exper. Med., xxxiii, 773, June, 1921.

"Change of Acid Agglutination Optimum as Index of Bacterial Mutation"—J. Gen. Physiol., iv, 387-393, March, 1922.

"Mechanism of Granular Growth of Rabbit Septicemia Bacillus Type G"—J. Gen. Physiol., iv, 395-402, March, 1922.

"Mutation of Bacillus of Rabbit Septicemia"—J. Exper. Med., xxxv, 561-574, April, 1922.

"Virulence and Mutation of Bacillus of Rabbit Septicemia"—J. Exper. Med., xxxv, 621-623, May, 1922.

Also, in conjunction with P. M. Ireland, "Streptolysin"—J. Infec. Dis., xxvi, 285, April, 1920.

Very sincerely yours,
THE JOURNAL A. M. A.,
ARTHUR J. CRAMP,
Propaganda Department.

BRISTOL NORTH DISTRICT MEDICAL SOCIETY.

Mr. Editor:

On September 21, 1922, there was a meeting of the Bristol North District Medical Society. A committee was appointed to communicate with the Bristol South and the Plymouth districts for the purpose of arranging a joint meeting at the Lakeville Tuberculosis Sanatorium some time in November. The paper of the evening was read by Dr. Dunbar of the laboratory of Tufts College on the relations between the laboratory worker and the general practitioner. This was followed by an animated discussion.

Yours sincerely,
JOSEPH L. MURPHY,
District Reporter.

NOTICES.

THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

"The Association of Military Surgeons of the United States will hold its 31st annual meeting in the auditorium of the Interior Department Building, Washington, D. C., beginning October 12, at 9.30 A. M. An interesting literary and professional program is in prospect, and the association will have as distinguished guests delegates from the British naval service, from Canada and from Spain. The officers of the association for this year are Captain F. L. Pleadwell, M.C., U. S. Navy, President; Colonel Charles Lynch, M.C., U. S. Army, first vice-president; Colonel David S. Fairchild, Jr., M.C., Iowa N. G., second vice-president; Senior Surgeon J. C. Perry, U. S. P. H. S., third vice-president; and Colonel James Robb Church, U. S. A. (Ret.), Washington, D. C., secretary-treasurer."

AN IMPORTANT MEETING.

On the evening of October 18, Dr. John O. Polak, Professor of Obstetrics and Gynecology in the Long Island College Hospital, will speak at the Boston Medical Library on Caesarean Section. The meeting will be the first of those to be held by the Suffolk District this season, but at all the meetings physicians interested who are not members of the Suffolk District will be welcomed.

UNITED STATES CIVIL SERVICE EXAMINATION.

LABORATORY AID IN BACTERIOLOGY.

November 8, 1922.

The United States Civil Service Commission announces an open competitive examination for laboratory aid in bacteriology on November 8, 1922.

Applicants should at once apply for Form 1312, stating the title of the examination desired, to the Civil Service Commission, Washington, D. C., or to the secretary of the United States Civil Service Board. Applications should be properly executed, excluding the medical certificate, and filed with the Commission at Washington in time to arrange for the examination of the applicant.

The second annual meeting of the American Association of Oral and Plastic Surgeons will be held in Boston at the Boston Medical Library, Friday and Saturday, October 20 and 21. An interesting program has been arranged, and those interested in this field of surgery are cordially invited to be present.

MASSACHUSETTS STATE NURSES' ASSOCIATION.

The autumn meeting will be held Saturday, October 7, 1922, at American Legion Hall, Gloucester, Mass. An interesting program has been arranged under four sections: League of Nursing Education, Private Duty Nurses, Public Health Nurses, and Massachusetts State Nursing Association. Congressman A. Piatt Andrews will address one of the section meetings.

DISEASES REPORTED TO THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH.

WEEK ENDING SEPTEMBER 23, 1922.

Disease.	*Cases.*	*Disease.*	*Cases.*
Anterior poliomyelitis	12	Ophthalmia neonatorum	25
Chicken-pox	14	Pneumonia, lobar	18
Diphtheria	139	Scarlet fever	62
Dog-bite requiring anti-rabic treatment	3	Syphilis	38
Encephalitis lethargica	2	Suppurative conjunctivitis	6
German measles	3	Trachoma	3
Gonorrhea	88	Tuberculosis, pulmonary	112
Influenza	5	Tuberculosis, other forms	21
Malaria	1	Typhoid fever	32
Measles	58	Whooping-cough	141
Mumps	32	Hookworm	1

BOOKS RECEIVED.

The JOURNAL acknowledges the receipt of the following books for review:

Principles and Practice of X-Ray Technic for Diagnosis. By John A. Metzger. Published by C. V. Mosby Co., St. Louis. 144 pages. Price $2.75.

Diseases of Skin. Second edition. By Henry H. Hazen. Published by C. V. Mosby Co., St. Louis. 608 pages. Price $7.50.

Atlas of Syphilis. By Professor Leo V. Zumbusch. Published by William Wood & Co., New York. 31 plates. Price $15.

SOCIETY MEETINGS.

DISTRICT SOCIETIES.

A list of society meetings is herewith published. This list will be changed on information furnished by the secretaries of the societies, and will appear in each issue.

Barnstable District:—Hyannis,—November 3, 1922, February 2, 1923, (Annual Meeting)—May 4, 1923.

Bristol North, Bristol South, Barnstable and Plymouth Districts will hold joint meetings sometime this fall.

Bristol South District:—Fall River,—November 2, 1922, May 3, 1923.

Eastern Hampden Medical Association:—Springfield, October 5, 1922.

Essex North District:—Haverhill, (Semi-Annual Meeting)—Jan. 3, 1923. Y. M. C. A. Building, Lawrence, (Annual Meeting)—May 2, 1923.

Essex North, Essex South, Middlesex North and Middlesex South Districts will hold joint meetings October 18. Place undecided.

Hampden Districts:—With Hampshire District in Holyoke. Regular meeting in October.

Suffolk District:—Stated Meeting, October 18, 1922. Combined meeting of Boston Medical Library and Suffolk District, November 22, 1922; December 27, 1922; January 31, 1923; February 28, 1923; March 28, 1923; Annual Meeting, April 25, 1923.

The Springfield Academy of Medicine meets the second Tuesday of each month. Schedule of speakers includes the following names: Dr. Alexis Carrel, Dr. W. B. Long, Dr. J. W Williams, Dr. W. S. Thayer, and Dr. Barton Cooke, Hist. The date for each speaker has not been assigned.

Middlesex North District:—Meetings Wednesday, October 25, 1922; Wednesday, January 31, 1923.

The four western districts plan to hold a joint meeting early in October.

STATE, INTERSTATE AND NATIONAL SOCIETIES.

Plans are being made for a joint meeting of the Worcester and Worcester North districts in October.

Massachusetts Medico-Legal Society will meet Wednesday, October 4, 1922, at 2 P. M., at the Boston Medical Library. Ernest L. Hunt, Secretary.

October, 1922. Boston Tuberculosis Association. Tuberculosis Institute for Physicians will be held on October 5 and 6 at the Massachusetts General Hospital, Bernice W. Billings, Boston, Executive Secretary.

The New England Society of Psychiatry will hold its next meeting on Ocober 5th, at the Connecticut State Hospital, Middletown, Connecticut. Readers: Dr. Walter Timme and Frankwood E. Williams, New York City.

WASHINGTON MEETINGS:—The Convention of the American Red Cross will be held in Washington, Oct. 9, 10, and 11. The American Child Hygiene Association meets in Washington, Oct. 12, 13, 14.

New England Dermatological Society, Wednesday, October 11, 1922, at 3:30 P. M., in the Skin Out-Patient Department, Massachusetts General Hospital, C. Guy Lane, Secretary.

The Fifty-First Annual Meeting of the American Public Health Association will be held at Cleveland, Ohio, October 16-19, 1922. Headquarters will be at Hotel Statler.

The American Association of Oral and Plastic Surgeons will hold their annual meeting at the Medical Library, Boston, on October 20th and 21st.

Clinical Congress of the American College of Surgeons will be held in Boston, Mass., on October 23-27, 1922, Franklin H. Martin, Chicago, Director-General.

Massachusetts Association of Boards of Health, October 26, 1922, Boston, Mass., W. H. Allen, Mansfield, Mass., Secretary.

New York and New England Association Railway Surgeons 32nd Annual Meeting at New York City, October 28, 1922, Donald Guthrie, Sayre, Pa., Secretary.

November, 1922. Massachusetts Society of Examining Physicians, (Date and place of meeting undecided), Hilbert F. Day, Secretary. National Cancer Week, November 12 to 18.

December, 1922. New England Dermatological Society Meeting, Wednesday, December 13, 1922, at 3.30 P. M., in the Surgical Amphitheatre, Boston City Hospital, C. Guy Lane, Secretary.

January, 1923. Massachusetts Society of Examining Physicians, (Date and place undecided), Hilbert F. Day, Secretary. Massachusetts Association of Boards of Health, January 25, Annual Meeting, Boston, W. H. Allen, Mansfield, Mass., Secretary.

February, 1923. New England Dermatological Society Meeting, February 14, 1923, at 3.30 P. M., in the Skin Out-Patient Department, Massachusetts General Hospital, C. Guy Lane, Secretary.

March, 1923. Massachusetts Society of Examining Physicians, (Date and place undecided), Hilbert F. Day, Secretary.

April, 1923. New England Dermatological Society Meeting, April 11, 1923, at 3.30 P. M., in the Surgical Amphitheatre, Boston City Hospital, C. Guy Lane, Secretary. Massachusetts Association of Boards of Health, April 26, 1923, Boston, W. H. Allen, Mansfield, Mass., Secretary.

May, 1923. Massachusetts Society of Examining Physicians, (Date and place undecided). American Pediatric Society Meeting, May 31, June 1, and 2, 1923, at French Lick Springs Hotel, French Lick, Ind., H. C. Carpenter, Secretary.

June, 1923. American Medical Association, San Francisco, June 25-29, 1923, Alexander R. Craig,* Chicago, Ill., Secretary.

July, 1923. Massachusetts Association of Boards of Health, July 26, Nantasket, W. H. Allen, Mansfield, Mass., Secretary.

*Deceased Sept. 2, 1922.